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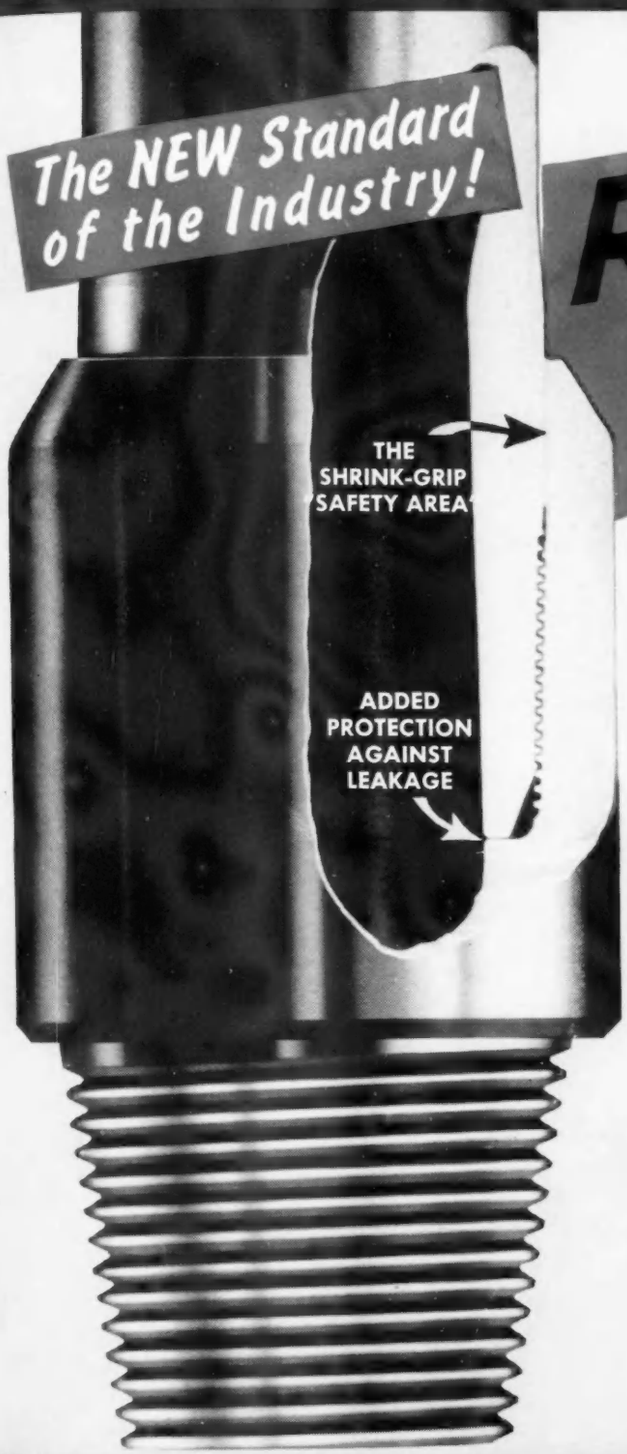

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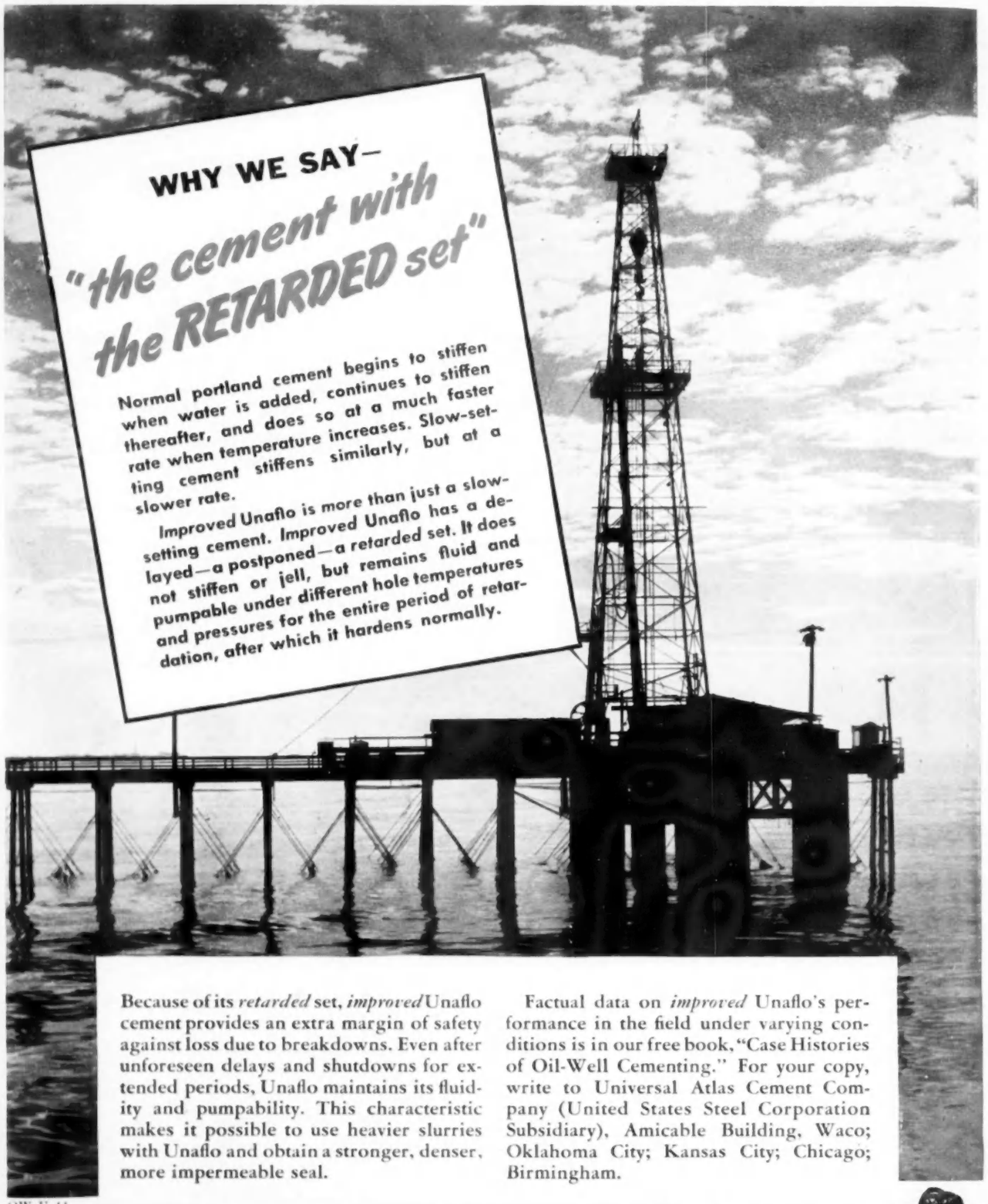
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LOOKING AHEAD

... with the Editor

BENEATH the St. Peter formation in Illinois are many hundreds of feet of Lower Ordovician and Cambrian sedimentary rocks — dolomites, shales and sandstones—of marine origin. In the south two thirds of the state these formations constitute an almost unexplored geological "layer." What are the prospects for these horizons to produce oil? This will be the interesting topic discussed in a forthcoming article.

THE OIL MAN'S CALENDAR

FEB.	
20–24	**American Institute of Mining and Metallurgical Engineers, Waldorf-Astoria, New York.**
MAR.	
15	**American Petroleum Institute, Pacific Coast District, Division of Production, Biltmore Hotel, Los Angeles.**
21–23	**American Association of Petroleum Geologists, Society of Exploration Geophysicists and Society of Economic Paleontologists and Mineralogists, Baker Hotel, Dallas.**
22–23	**Southern Gas Association, Roosevelt Hotel, New Orleans.**
23	**Spring Meeting Pacific Coast District API, Biltmore Hotel, Los Angeles.**
APRIL	
10–12	**National Association of Corrosion Engineers, Annual Meeting, Rice Hotel, Houston.**
12–14	**Natural Gasoline Association of America, Baker Hotel, Dallas.**
13–14	**American Petroleum Institute, Eastern District, Division of Production, Deshler-Wallick Hotel, Columbus, Ohio.**
24–25	**National Oil Scouts and Landmen's Association, Hotel Adolphus, Dallas.**
NOV.	
13–16	**American Petroleum Institute, Stevens Hotel, Chicago.**

THE OIL WEEKLY

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The Changing Panorama

Pew Never Opposed Oil Price Increase

CONTRARY to a recent statement made by Drew Pearson in his newspaper column, J. Howard Pew, president of Sun Oil Company, has never opposed a price increase for crude oil, and he has so informed the columnist. Pew's letter to the Washington commentator is as follows:

"Your column of February 10 from Wichita Falls, Texas, gives the impression that I have been opposed to a price increase for crude oil. Nothing could be farther from the truth, for I have unequivocally supported the fight to raise the present unfair price ceiling on petroleum and its products.

"You have undertaken to create this impression by stating:

"Howard Pew, of Sun Oil, testifying at a hearing in Washington, frankly admitted: 'I am very keen on getting the cost of crude oil down as low as possible.'

"This quotation was torn from its context in testimony which I gave as a spokesman for the American Petroleum Institute before the temporary National Economic Committee on September 26, 1939. My testimony on that occasion, more than four years and four months ago, when an entirely different situation existed in the industry than exists today, obviously, had nothing whatsoever to do with the present price situation in regard to petroleum and its products. Moreover, I was not discussing prices at that time but rather 'costs of crude oil.' There is a distinction between 'costs' and 'prices,' for the fairness of the price of a commodity can be judged only upon the cost of producing and marketing the commodity.

"I have been a lifelong advocate of doing everything possible to reduce the costs of producing, refining and marketing crude oil in order that finished products can be sold to the consumer at lower prices. But I have never advocated the reduction of a price below the cost of production plus a reasonable profit. At the hearing cited in your column, and recorded upon the same page of the printed hearings as the statement which you quoted, I pointed out that crude oil production was an unprofitable operation at that time.

"For many months I have supported the movement within the petroleum industry to persuade the Office of Price Administration and the Director of Economic Stabilization of the urgent necessity of raising the price of crude oil so the industry might fulfill its obligation to produce sufficient oil to meet the needs of the war program. As a member of the Petroleum Industry War Council, I voted last November for that body's resolution criticizing the failure of the Offices of Price Administration and Economic Stabilization to permit a price increase for petroleum and praising the efforts of Petroleum Administrator for War Ickes in seeking to obtain an increased price.

"I have set forth in some detail my reasons for advocating an increase in crude oil prices in the annual report of Sun Oil Company, now in the hands of the printer, which will be published within a few days. I shall see that a copy of this report is sent to you and what I have said there should convince you of the erroneous impression given by your column."

* * *

Perfection of a deep-freeze method for restoring initial hardness to cutting edges of tools such as dies, reamers and twist drills after a brazed repair should help toward meeting oil-field requirements for such materials, it no longer being necessary to scrap broken parts unless the fracture affects so much of the cutting surface that it cannot be effectively blanked off or ground out without impairing the product of the tool.

This Week's Absurdity: Provision by Congress of $30,000,000 for "research" in production of synthetic gasoline, so as to "furnish industry the necessary cost and engineering data for the development of a synthetic liquid fuel industry." In the first place, American scientists know how to convert coal into liquid fuel. The methods being used in Europe are known, and American industry has made potent research on this work. If synthetics will be needed to supplement natural supplies soon, $30,000,000 will go a long way toward providing actual and not experimental plants. Contrary to declarations, it appears that $30,000,000 will go a long way toward putting the government in the oil business. If it is a look to the future, the money and materials involved could better be used in guns and ships, and the experimenting done with the surplus of manpower and materials being dreaded after hostilities cease. Amendments to the lightly discussed legislation indicate that at least some of the Congress is more interested in promoting use of pet products than in getting the current job done. (See page 43.)

Truck Shortage Becomes Acute

A SEVERE shortage of oil-field trucks has hampered drilling activities for some months, and now threatens to become the number one stumbling block to the nation's drilling program unless remedial steps are taken immediately.

The urgent need for more hauling equipment even surpasses the scarcity of drilling materials and manpower.

The trucking outlook is so severe that a national collapse is threatened. More war goods must be hauled, but sufficient tires and replacement parts have not been provided to keep vehicles operating at the pace required.

Only a glimmer of hope is found in plans to build and release approximately 29,000 trucks in the United States during 1944. This total is only a drop in the bucket, when compared with the national needs of all industry.

There appears to be but one answer to the shortage—the building of more trucks, replacement parts and tires. Obviously this should be done before present transportation facilities are completely worn out.

Free Enterprise Plan Called For

THE paramount consideration in the handling of all demobilization problems should be the preservation and strengthening of the American system of free competitive enterprise."

Thus the Senate committee on postwar economic policy and planning describes the general aim and purpose of its proposed Office of War Demobilization.

The pattern is plain and the stated aim is commendable even though details of the march back to normalcy, once the war ends, doubtless will be complicated.

Definite rules applicable to the oil industry were laid down by the committee and indicate that government plants would be disposed of "in such a way as to result in their greatest economic use but the effect upon the general economy should be the first consideration." Plants suitable for production of peacetime goods and not needed for national defense would be sold where this can be done without causing ruinous overproduction in any industry.

"Authority should be expressly with-

held . . . to dispose of government-owned plants in basic industries (rubber plants, pipe lines, etc.) where the government holdings are sufficient for their disposal to exert a preponderant influence on the future course of that industry," the committee states. "No monopolies would be created or strengthened by the disposal of such plants and no such plants should be scrapped or destroyed except "where their continued existence would have a profoundly harmful effect upon the national economy."

Cheaper Fuel for Postwar Autos

THE desirability of conserving petroleum supplies will make it essential to get more power from every gallon of gasoline, and a wartime development may make this possible. This may be the primary change in the postwar automobile.

Getting more miles per dollar would result from the application of "pressurized carburetion," a wartime aircraft engine development that involves an automatic vapor control device which injects a certain amount of moisture into the manifold or into the cylinders. Its function is to provide more "burst horsepower" for starting and quick acceleration. With these two features of automotive locomotion, thus cared for, a car's fuel cost would drop because heretofore much relatively high grade gasoline required for the critical function of starting the motor, has been wasted on the open road where a much cheaper fuel could do the trick.

Conversion of Little-Inch Before May Out

THERE is no likelihood that the 20-inch product line from the Gulf Coast to the Atlantic Seaboard will be converted to crude oil before the end of April. The need until then of heating oil on the East Coast is too serious to permit any thought of immediately converting the carrier from products to crude oil.

At the end of April the idea of converting the line to crude oil may be considered seriously. Conversion of the line has been suggested because of insufficient products supplies in the Gulf Coast to fill the system, and because of the need for additional crude oil to keep Middle-West refineries operating. Before converting the system, a careful survey of available crude supplies will have to be made to be certain that there is an adequate supply of crude.

What Do You Think?

Since publication of an article stating that some within the industry favored immediate dissolution of PAW (page 9, THE OIL WEEKLY, February 7), and since publication of an editorial stating that immediate dissolution would be fraught with great dangers to the industry (page 10, THE OIL WEEKLY, February 14) much discussion of the question has taken place in the industry.

THE OIL WEEKLY invites comments from its readers on this important subject. Do you think that PAW should be continued essentially as it is until the end of the war, or do you believe it should be materially skeletonized now, or do you favor immediate complete dissolution? Why do you think so?

Inventiveness, Action Will Help Manpower

STRIPPED of all its ramifications and confusion, the manpower shortage problem in the oil industry remains the responsibility of management. The PIWC committee on manpower in stressing this fact, urges employers, large and small, in every phase of the oil industry to be informed and use every possible means of solution suggested by government, labor and industry agencies.

But, further, management must effectively bring home to its employes that oil workers' jobs are essential war jobs and that each oil worker is needed on his job as vital support to the Armed Forces, and essential civilian services.

No one media can do this; it requires the combined inventiveness and action of all employers to meet their individual situations. Try everything; try all the time. Here are a few suggestions:

(1) Examine your operations; determine what they do to support the armed forces, war industries and civilian life, and let your employes know. Keep telling them.

★ AVOID USELESS WRAPPINGS! ★ ACCEPT SIMPLER PACKAGING! ★
PAPER
PACKS A WAR
PUNCH!
FIGHT WASTE!
★ SHARE THE PRINTED WORD! ★ MAKE EACH PIECE STRETCH! ★

(2) Tell your employes about oil and its products as "life blood" to these activities; show them by pictures and words, by visits of returning servicemen, movies, etc., how their jobs are needed to fulfill this obligation to their country and fellow-workers in the armed services. Keep telling them.

(3) Tell your employes about post-war plans. Put over the idea that the oil industry will be a "going concern" after the war with new fields of activity and that jobs and work security will be there. Reach their families with this message.

(4) Let your skilled employes know by example that every effort will be made to retain their services by occupational deferment. Examine their skill and abilities; many may be upgraded into more essential work, and higher pay will tend to stabilize turnover in this group.

(5) Review grievance procedures, wages, hours of work and working conditions. Check if they are really effective in holding down turnover. Is there an established procedure providing for *talks* with employes who wish to leave; many times troublesome matters can be cleared up and the employe retained. Can anything more be done to alleviate poor housing and transportation conditions? Are you lending active support to community leaders on these problems?

It is realized that such things are not "cure-alls." They are, however, accumulative in effect and tend to maintain an active, interested labor force. All employers of the oil industry are urged to direct their efforts along these lines.

Sectional Houses for Oil Field Workers

WITH six percent of the total government-built war emergency houses vacant, it appears that something might be done to put such houses, especially sectional houses, at the disposal of such industries that are still handicapped for lack of housing facilities.

Sectional houses originally cost from $2800 to $3000 each. They can be dismantled, transported and rebuilt at a cost of from $1500 to $1700, or about one half of the original cost.

If materials are not available to grant priorities to oil companies needing such houses, for instance, why not make it possible for oil companies to purchase these houses, especially in areas close enough to oil field needs to make it reasonable to move them?

In Kansas, at Parsons, for example, 300 sectional houses were built. Half of these units are vacant now. Also at DeSoto, Kansas, 852 houses were built. Peak occupany was 425.

. . . Well Spacing . . .

Its Effects on Recoveries and Profits

By STUART K. CLARK, Assistant Chief Geologist, Continental Oil Company, Ponca City, Oklahoma
C. W. TOMLINSON, Oil Producer, Ardmore, Oklahoma
J. S. ROYDS, Valuation Engineer, Continental Oil Company, Ponca City, Oklahoma

Published through courtesy of the Bulletin of the American Association of Petroleum Geologists

In Two Parts
PART I

THE effect of well spacing on both recoveries and profits has been a highly controversial subject. The effect on recoveries alone has not been a matter of universal agreement. And under a barrage of propaganda for wide spacing, as an alleged cure for the financial problems created by the nationwide adoption of proration and the subsequent period of declining allowables that followed the discovery of the East Texas field, any calm appraisal of the subject on a strictly scientific basis was virtually impossible.

Now that a persistent decline in the rate of discovery over a period of the past six years has substituted the problem of maintaining supplies of oil adequate for our needs for that of declining allowables, it may be possible for the whole question of well spacing to receive consideration on a purely objective basis. The purpose of this paper is to present such a study.

The discussions are intentionally limited to sands and lime or dolomite reservoirs whose physical characteristics are such that they behave like sands; i.e. that oil movement is through capillary openings. It is recognized that an accumulation of oil in a true cavern similar to that at Carlsbad might be drained, within a period of time having some significance in relation to human lifetimes, by one properly located well.

Considering the effect of spacing on recoveries, it may be noted that until recent years there was no disposition to question the idea that closer spacing did mean increased recovery from a reservoir as a whole. But with the advent of proration and of various production practices looking toward more efficient utilization of reservoir energy, it has be-

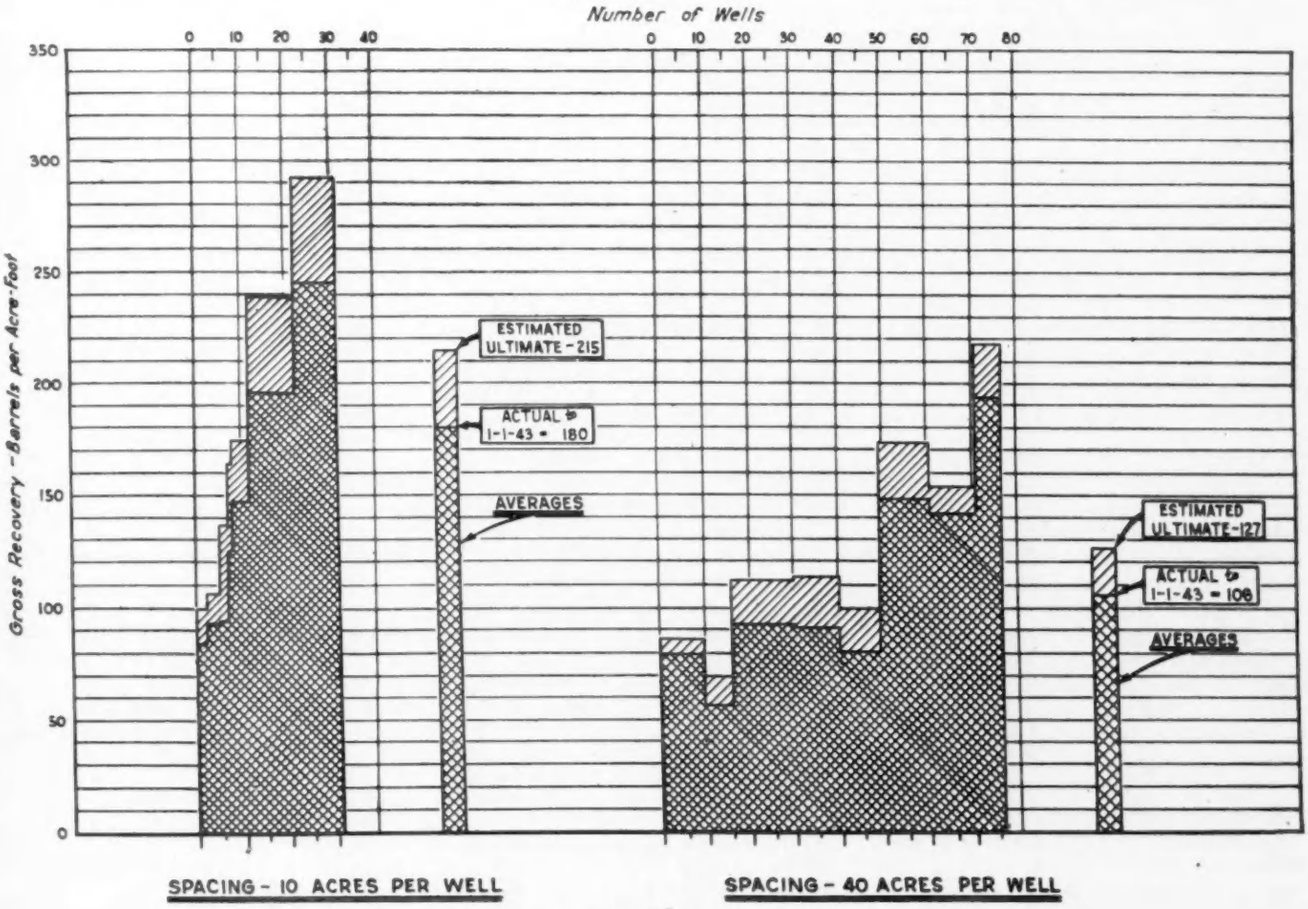


FIGURE 1
Chase Townsite pool, Kansas. Block diagram showing yields per acre for the areas of 5- and 10-acre well spacing.

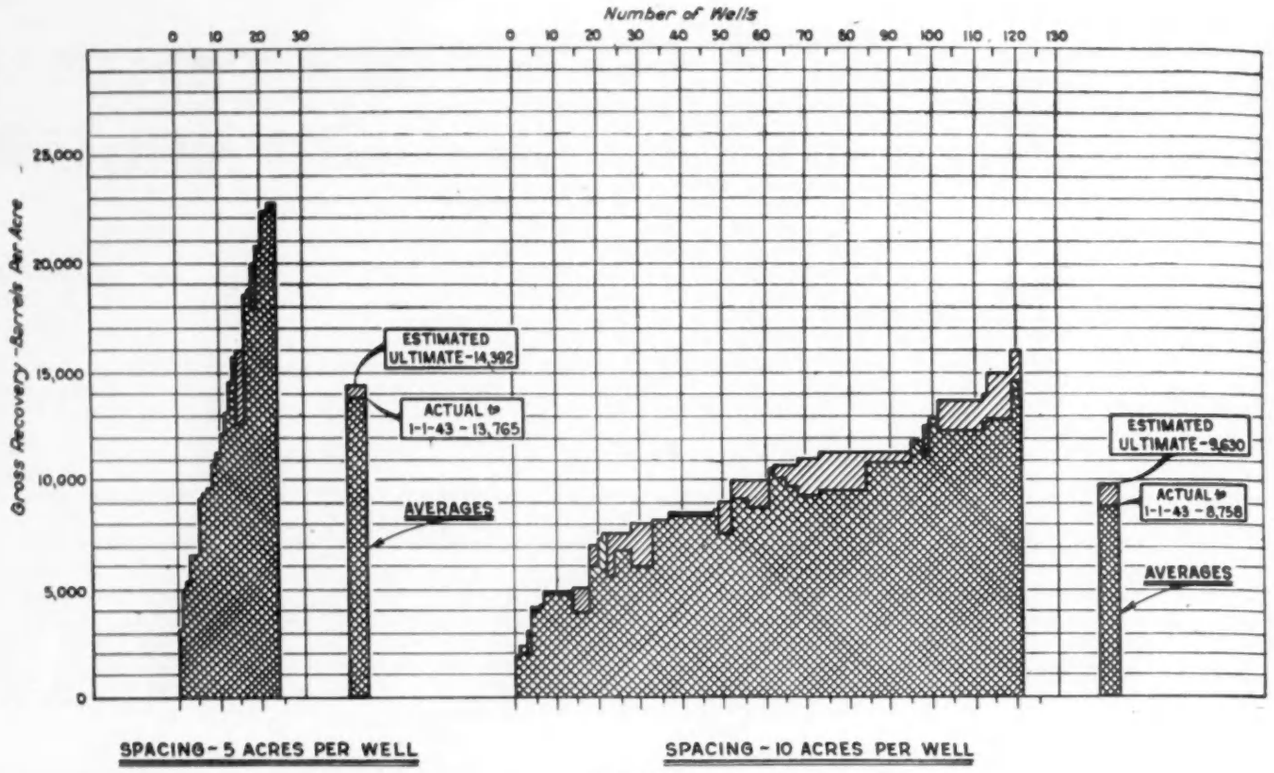


FIGURE 2

Lucien Field, Oklahoma. Block diagram showing yields per acre-foot from Simpson sand for the areas of 10-acre spacing (actual average 11.0 acres per well) and 40-acre spacing (actual average 36.4 acres per well) respectively. In the area of 40-acre spacing, wells are grouped in east-west strips ½ mile wide arranged in order from south to north. Recoveries for 10-acre wells are shown by leases.

come fashionable to assume that recoveries per acre or per unit volume of pay are virtually independent of well spacing.

Glowing pictures of the economies to be effected through wider well spacing have been predicated on that assumption.

Some arguments have gone even farther and asserted that close spacing, by increasing the difficulties of controlling the utilization of reservoir energy effectively, would actually decrease recoveries under present-day operating practices.

Virtually no valid evidence has been presented in support of such arguments.

The standard procedure in a physical laboratory for studying the relationship between two variables is to hold other factors constant, impose changes in one and observe the effect on the other. Thus if it is desired to determine the temperature-volume relationships for a gas, it is necessary that the pressure be maintained constant while temperature is intentionally varied and the resulting changes in volume recorded. Similarly, to determine pressure-volume relationships, it is essential that temperature be maintained constant during the experiment.

If all the factors were varied simultaneously, the attempt to establish cause-and-effect relationships would degenerate into mere speculation.

But once those relationships have been determined, it is possible to predict the effect of a combination of variations, by calculating the effect of each individual factor in sequence. The point should be emphasized that it is not permissible to ignore the effect of one variable factor simply because other variables have been introduced.

Obviously the ideal way to determine the effect of well spacing on ultimate recovery would be to apply the same principles of laboratory procedure. That would mean taking a number of fields with identical reservoir characteristics (including porosity, permeability, and type of drive available to force the oil to the hole) equal initial pressure, and oil of the same viscosity and gas content; developing those fields on various well spacings; and then operating them to depletion, using identical production practices in all cases. Under such circumstances, any differencs in recoveries would necessarily be attributed to the differences in well spacing.

The fact that such procedure has not been followed as a matter of deliberate intent has imposed great difficulties in the way of obtaining evidence which was not open to challenge on some ground. Either the reservoirs were not comparable, depths and pressures were different, production practices were different, or if a group of fields was found which were ideal in every other respect, the well spacing was apt to be identical, thus precluding the development of any useful information.

Differing recoveries from areas of differing spacing in the same field, such as are illustrated in Figures 1 and 2, have been brushed aside as evidence on the grounds that the closely spaced wells simply represent "extra straws in the same glass."

On the other hand, elaborate arguments designed to show the economic waste involved in close spacing have often been based on recovery estimates made in the early life of fields, which the passage of time has shown to be far short of the actual recoveries.

In view of the difficulties cited, figures recently made available by Hill and Guthrie[1] on unit recoveries from the Woodbine sand fault-line fields in Texas are highly significant because they represent a group of fields in which:

1. The producing horizon is the same;
2. Structural conditions are essentially the same.
3. The character of the oil is essentially the same;
4. The variation in depths and pressures is slight;

[1] H. B. Hill and R. K. Guthrie—Analysis of Oil Production in the Near-Depleted Mexia-Powell Fault-Line Fields of Texas. U.S.B.M. R.I. 3712.

TABLE 1

Data on Mexia—Powell Fault Line Fields of Texas

FIELD	Currie	Mexia (Fault Leases)	Powell*	Richland†	Wortham
Productive Area—Acres	435	1,820	2,600	234	760
Number Wells	75	391	741	99	354
Spacing—Acres per Well	5.8	4.7	3.5	2.4	2.2
Pay Thickness	20.9	56.9	46.5	20.1	24.8
Pay Volume—Acre-Feet	9,092	103,543	120,813	4,701	18,868
Production to 1-1-42 Barrels	6,645,460	85,700,000†	109,972,041	6,398,020	22,741,106
Estimated Ultimate Production	7,000,000	89,500,000	113,500,000	6,500,000	23,500,000
Estimated Ultimate Recovery:					
Barrels per Acre	16,092	49,179	43,654	27,771	30,921
Barrels per Acre-Foot	770	864	939	1,383	1,245
Percentage‡	43.6	48.0	53.2	78.3	70.5

* Includes Woodbine sand production only. † Approximate. ‡ Based on estimated original oil content of 1,766 Barrels per Acre-Foot.

5. All were exploited in the same manner; i.e. rapid development and wide-open flow;
6. All were subject to natural water drive;
7. All are so nearly depleted that there is no chance for errors in the estimates of ultimate recovery to have any appreciable effect on the results; and
8. The average well spacing varies through a relatively wide range among the fields.

In other words, these fields provide the equivalent of a laboratory demonstration.

The essential data concerning them are presented in Table 1. They have been arranged in the order of the well density.

It is evident at a glance that the unit recoveries from the more closely drilled fields are greater than from the less densely drilled ones. In fact the recoveries line up in exactly the order of well density except for the two most closely drilled, in which instance the difference in density amounts to only 0.2 acre per well.

If recoveries under different spacings are related to the average distance the oil has to move to reach a well as suggested by Cutler, then it would be expected that they should be proportional to the reciprocal of the square root of the area attributable to each well. Table 2 shows that the ratio of the two is almost constant for this group of fields.

This suggests the possibility of utilizing a graphic chart in which recoveries per acre-foot of pay and the reciprocal of the square root of the acres per well are used as the coordinates to show that mathematical relationship. Figure 3 presents such a chart on which the points for the Texas fault-line fields have been plotted.

TABLE 2

Ratios—Unit Recoveries to Reciprocal of Square Root of Spacing

FIELD	Spacing Acres Per Well	Recovery Bbls. per Acre-Foot	Reciprocal of Sq. Root of Acres Per Well	Ratio Factor
Currie	5.8	770	0.412	1870
Mexia	4.7	864	0.460	1880
Powell	3.5	939	0.535	1750
Richland	2.4	1,383	0.644	2150
Wortham	2.2	1,245	0.675	1850

The data for the Wortham, Mexia, and Currie fields fall almost in a straight line, the projection of which passes through the zero point of the two scales. The Powell field point falls only slightly below the line. Only the Richland field point lies appreciably out of line. When the difficulties of determining pay-sand volumes precisely and the possibilities for variations in the reservoir rock itself are considered, these data may be regarded as practically perfect evidence of the suspected straight-line relationship.

The importance of these data is their bearing on the problem can hardly be overemphasized, since they probably represent the most conclusive evidence that has been, or is likely to be, assembled as to the exact effect of variation in well spacing alone on unit recoveries.

The meaning of the relationship shown by the graphic chart may be made clear with the aid of the well spacing-acres per well scale drawn at the top of the chart. The unit values on this scale represent an inverted diminishing series approaching the zero of the horizontal scale as the spacing approaches infinity. Then if a straight line passing through the zero point of the chart represents all the variations in recovery from a given reservoir, or from identical reservoirs, for all possible variations in well spacing, other factors being equal, it means that as well spacing increases, unit recoveries decrease in inverse ratio to the square root of the spacing as expressed in terms of acres per well, and that as the spacing approaches infinity the unit recovery approaches zero.

The conclusive demonstration furnished by these data from separate fields that well spacing, even with densities below 6 acres per well, does affect recoveries in accordance with a definite mathematical relationship, makes a huge volume of supporting evidence based on different spacings in the same field admissible.

A number of such cases are shown on a second chart (Figure 4) and following charts.

Lucien Field—Oklahoma

The Lucien field data (Figure 4) are of particular interest since the initial development was undertaken as a unit operation under proration and the greater part of the field was developed with a spacing of 40 acres per well, with the avowed purpose of making the field a model of economical development and efficient operation.

Several years later a south extension was developed on a minor dome at the south end of the major structural high. It was largely developed on a 10-acre spacing pattern. Both areas produce from both the First and Second Wilcox sands (Ordovician).

Production from the first and second sands has not been segregated, but the productive portions of the two horizons in this field appear to be practically identical in character.

It is noteworthy that the line joining the 40-acre and 10-acre recovery points, if projected, passes only slightly above the zero point of the chart. Or, from another viewpoint, the recovery from the 10-acre wells is slightly less than would have been indicated by a line from the zero point to the 40-acre datum.

The specific figures used are set up in Table 3.

Hewitt Field—Oklahoma

The data for the Hewitt field (Figure 4) furnish another near perfect confirmation of the proposition that recovery is inversely proportional to the square root of the well density expressed in acres per well. One point represents an area of 790 acres in the north portion of the field with a spacing of 9.6 acres per well and the other represents the remainder of the field with an average spacing of 3.3 acres per well.

The economic importance of close spacing in this instance is indicated by the fact that some 32,000,000 barrels of oil must be credited to the effect of close spacing. That is, it represents the additional oil recovered to date from the closely spaced portion of the field beyond the unit recovery established for the widely spaced portion.

Ideal Lease, Healdton Field, Oklahoma

The data for the Ideal Oil & Gas Company and 32nd Oil & Gas Com-

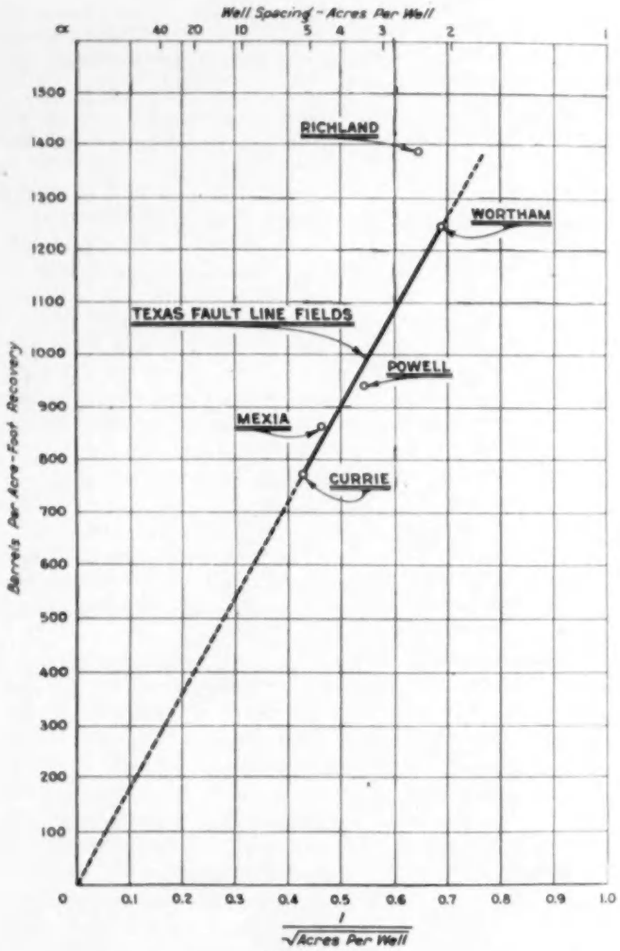


FIGURE 3

Well spacing-recovery chart illustrating the relation between well spacing and recovery in certain specific instances.

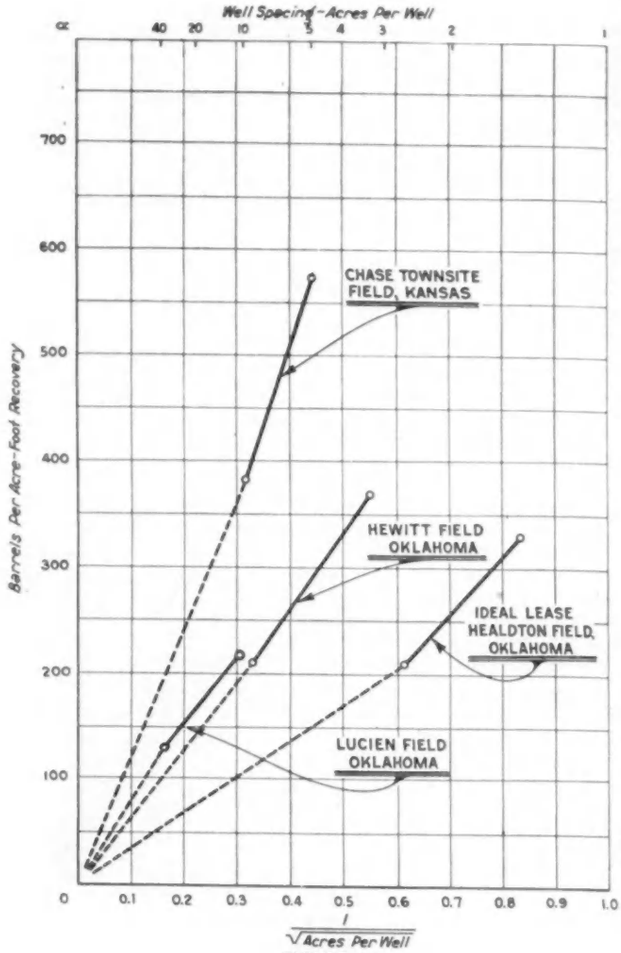


FIGURE 4

Well spacing-recovery chart illustrating the relation between well spacing and recovery in certain specific instances.

pany's Scoggins lease in Section 32-3s-3w, (Figure 4) presents a different situation than those previously discussed. In this instance, one point represents the established ultimate recovery from 9 wells drilled during the period 1914 to 1920 with a spacing of 2.8 acres per well, while the other represents the estimated ultimate recovery from 17 wells in the same area, including 8 drilled during the period 1936-1941 making the spacing 1.5 acres per well. Contemporaneous with the additional drilling, some repressuring with gas was undertaken. This probably accounts for the fact, that the indicated increase in recovery for the closer spacing is greater than the normal expectancy.

This is merely one instance out of the many which might be cited from the Healdton field, where 30 years' production history has conclusively demonstrated the advantages of close spacing.

Chase Townsite Pool—Kansas

The Chase townsite pool (Figure 4) presents a case somewhat similar to that of the Hewitt field, in that the townsite area in the north end of the field was developed on a spacing averaging 5 acres per well as compared to 10-acre spacing in the remainder of the field. The recoveries per acre, actual and estimated ultimate, are shown in Table 4.

So far as it can be determined, the average thickness of pay in the two areas is approximately the same. Precise computation of the actual volumes of pay in this porous dolomite are impossible. The unit recoveries plotted on the chart were computed on the basis of an average of 25 feet of pay, which is approximately the average thickness of Arbuckle lime present above the original water level. This simply serves to give figures which fall within the range of the chart. The resulting comparison is precise as to acre yields and is believed to be relatively fair as to unit volume recoveries.

The increase in recovery per acre for the closer spacing is obvious. The recovery for the 5-acre wells is somewhat higher than would have been predicted on the basis of a line through the zero point and the 10-acre recovery point; but the agreement is close enough to substantially confirm that mathematical relationship.

Wilcox Sand—Oklahoma City Field

The comparisons made thus far have been based on separate fields, or on separate sections of the same field developed on distinctly different spacing patterns.

The data for the Wilcox sand in the Oklahoma City field, Table 4, provide an opportunity for a study of the effects of erratically varying spacing within a productive area. The comparisons have been made by computing spacing and recoveries by quarter sections; grouping them by 4-acre spacing increments as follows: 0 to 4 acres, 4 to 8 acres, 8 to 12 acres, and over 12 acres, and averaging the spacing and recovery per acre-foot for those groups.

Part 2 will appear in the next issue.

TABLE 3

Summary of Intrafield Data Used in Well Spacing—Recovery Chart

	Number Producing Wells	Number Productive Acres	Density Acres per Well	Average Sand Thickness	Number Acre-Feet Pay	Produced 1-1-43	Estimated Ultimate Production	Cumulative Recovery		Estimated Ultimate Recovery	
								Barrels Per Acre	Barrels Per Acre-Foot	Barrels Per Acre	Barrels Per Acre-Foot
									Barrels per		
Chase Townsite Field	25	125	5	est. 25	3,125	1,720,672	1,799,038	13,765	549	14,392	575
	121	1,210	10	est. 25	30,250	10,596,912	11,749,906	8,758	350	9,630	385
Lucien‡	32	354	11.0	125	44,554	8,021,564	9,620,000	22,659	180	27,175	215
	76	2,770	36.4	71	196,204	20,814,819	24,585,000	7,515	106	8,875	127
Hewitt	612	2,020	3.3	104	210,080	73,669,400	77,900,000	36,470	350	38,564	370
	82	790	9.6	97	76,630	15,049,500	16,070,000	19,050	196	20,341	210
Mexia	264	873	3.3	58.6	51,189	54,209,410	56,500,000	62,067	1,059	64,690	1,104
	133	579	4.3	43.2	24,994	20,999,368	22,000,000	36,120	840	38,029	880
	127	947	7.45	55.3	52,354	30,637,798	33,000,000	32,370	585	34,865	630
Wortham	76	137	1.8	19.8	2,713	.....	4,707,250	....	....	34,359	1,735
	134	257	1.9	27.3	7,016	.....	10,721,449	....	....	41,718	1,528
	80	177	2.2	25.9	4,584	.....	5,018,514	....	....	28,353	1,095
	64	189	3.0	24.1	4,555	*	3,052,787	*	....	16,152	670
Currie	41	190	4.65	22.2	4,219	3,978,517	*	20,954	943	*	....
	17	163	7.18	16.4	2,689	1,497,773	.....	9,134	557	....	....
	8	76.8	9.6	21.1	1,622	749,027	.....	9,727	461	....	....
Richland	58	124.9	2.15	20.9	2,618	3,868,782	3,970,450	30,869	1,477	31,789	1,517
	41	109.1	2.66	19.1	2,083.8	2,529,550	2,529,550	23,186	1,214	23,186	1,214
Healdton—Ideal Scoggins Lease:											
Original Development 1913-21	9	25	2.8	95	2,375	.....	503,500†	....	....	20,140	212
Additional Development 1928-41	17	....	1.5	....	....	.....	783,750†	....	....	31,350	330
Additional Recovery attributed to Denser Spacing and Gas Injection	....	....	....	....	....	.....	280,250	....	....	11,210	118

* Data not available. † Calculations based upon study of decline curve. ‡ Six leases including 11 wells in the east half Section 33-20n-2w; NW 34-20n-2w and NW 3-19n-2w are not represented on the chart. Production data were not available for the two wells in NW Section 3. The other leases were excluded because of unsegregated Layton sand production.

TABLE 4

Wilcox Sand Recoveries in Oklahoma City Field

SPACING INTERVAL	QUARTER SECTION	Total Number Wells	Number Effective Acres	Density Acres Per Well	Number Acre-Feet Pay	Cumulative 6-1-43	Estimate Ultimate	B.P.A.F. Ultimate
0-4 Acres/Well	SW 14-12n-3w	1	1	1	113	174,878	220,000	1,946*
	SE 34	44	160	3.6	30,345	42,544,627	50,000,000	1,647
	NW 2-11n-3w	49	150	3.1	10,213	25,626,705	25,800,000	2,526
	NW 10	42	160	3.8	32,302	20,449,832	23,450,000	725
	SE 15	24	83	3.5	4,790	8,758,757	9,100,000	1,900
	SE 22	55	155	2.8	16,220	14,341,736	14,920,000	920
4-8 Acres/Well	SE 15-12n-3w	18	137	7.6	25,130	2,187,178	2,500,000	100
	NE 22	31	160	5.2	33,683	8,508,908	9,100,000	270
	NW 23	10	42	4.2	7,246	5,410,564	8,300,000	1,145
	SE 22	32	160	5	35,251	21,723,131	23,875,000	677
	SW 23	24	107	4.5	21,038	16,062,764	19,200,000	912
	NW 26	13	57	4.4	3,612	2,011,500	2,100,000	581
	SE 27	26	160	6.2	25,141	12,394,687	15,350,000	610
	NE 34	30	160	5.3	28,063	21,239,403	26,300,000	937
	NW 3-11n-3w	30	156	5.2	27,428	18,356,317	19,400,000	700
	NE 3	28	157	5.6	23,065	38,802,732	42,640,000	1,848
	SE 3	25	156	6.2	13,162	8,628,255	8,925,000	678
	SW 2	9	53	5.9	1,615	881,155	881,155	545
	NE 10	27	152	5.6	14,418	17,104,989	18,150,000	1,258
	SW 10	25	134	5.4	21,648	9,650,428	12,100,000	558
	SE 10	15	111	7.4	10,850	9,075,989	9,360,000	862
	NE 22	15	105	7.0	3,830	2,771,736	3,010,000	785
8-12 Acres/Well	SW 22-12n-3w	20	160	8	24,170	6,157,837	9,300,000	384
	NW 27	14	158	11.2	25,491	8,073,222	10,500,000	411
	NE 27	18	160	8.9	22,886	12,122,655	14,425,000	630
	NW 34	16	138	8.6	18,572	3,565,941	7,000,000	376
	SW/4 34	20	160	8	25,737	9,980,218	12,100,000	470
	SW 35	12	128	10.6	9,174	3,933,463	4,160,000	453
	SW 3 11n-3w	20	160	8	28,327	7,708,619	8,375,000	295
	NW 15	13	145	11.1	20,576	7,017,875	7,950,000	386
	NE 15	14	120	8.6	14,535	7,337,902	8,425,000	579
	SW 15	16	151	9.4	16,742	5,438,865	7,050,000	421
	SW 22	15	157	10.5	15,033	7,001,987	7,500,000	498
	NE 27	14	147	10.5	19,691	5,374,148	6,060,000	307
12-16 Acres/Well	SW 27-12n-3w	8	117	14.6	13,508	2,241,551	4,100,000	303
	NW 35	5	64	12.8	3,002	1,389,940	2,100,000	700
	Total South End Area— SE 27, NW, SW & SE 26; NW, NE, SE 35; S/2 25; All Sec. 36; NW, SW & SE 31-11n-2w; SW 32-11-2; N/2 6-10n-2w	103	1,306	12.6	143,303	37,807,611	45,750,000	320
Over 16 Acres/Well	NW 22-11n-3w	6	100	16.7	5,361	1,029,187	1,190,000	221
	SW 23	2	35	17.5	1,412	362,733	362,733	256
	SE 4	2	64	32	4,022	70,000±	70,000±	17*
	NW 27	1	56	56	3,026	95,000	95,000	31*
	NW 22-12n-3w	2	145	70.3	12,862	164,228	200,000	16*
Undrilled Quarter Sections	NE 15-12n-3w	..	105	....	8,112	.....	.....	....
	SW 15	..	98	....	6,047	.....	.....	....
	NE 21	..	7	....	74	.....	.....	....
	SE 21	..	51	....	1,489	.....	.....	....
	NE 28	..	42	....	1,789	.....	.....	....
	NE 33	..	8	....	149	.....	.....	....
	SE 33	..	56	....	2,867	.....	.....	....
	NE 4-11n-3w	..	108	....	9,363	.....	.....	....
	NE 9	..	65	....	4,301	.....	.....	....
	SE 9	..	37	....	1,678	.....	.....	....
	NE 16	..	16	....	421	.....	.....	....
	SE 16	..	28	....	983	.....	.....	....
	SE 27	..	....	....	2,239	.....	.....	....

* Sand Volumes attributed to these wells probably in error.

Effective Exhaust Quenching System Eliminates Big Fire Hazards

Combination of water-jacketed exhaust leg and siphon injection unit provides coldspot quenching of ignited carbon and introduction of sufficient water to vaporize and drop gas temperatures to safe level during their travel through the exhaust system

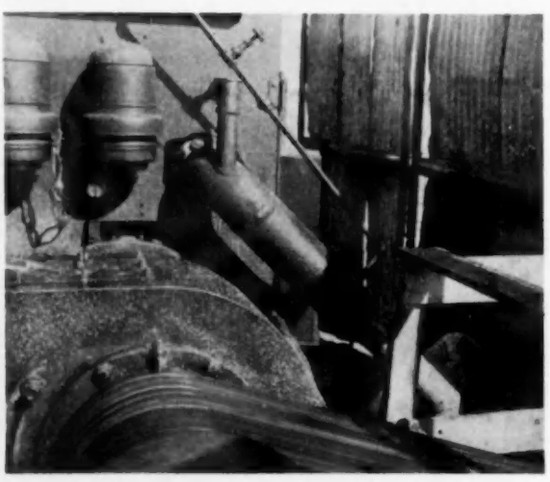
COMBATING the ever-present hazard of fire around a drilling rig is an important problem that requires constant attention. This is particularly true in town-lot drilling areas or sites where there is likelihood of free gas drifting near exhaust mufflers of the power units. Numerous ingenious methods of controlling exhaust gases have been devised by as many operators, but one of the most efficient, easily transported and trouble-free systems in use is that adopted by a company currently drilling a number of shallow holes in a coastal field where little time is spent on each hole and moving operations consume a large portion of total field time.

As in most systems, water is the means of cooling the gases to below the ignition point. This method utilizes not only circulated water in a cooling jacket, but the same water also enters the exhaust line and continues out to the end in actual contact with the gases and ignited carbon particles. Entirely automatic in operation, the system consists of a jacket welded in place over a short section of the engine exhaust line, preferably over and on either side of the elbow (if any) close to the engine. Length of the jacketing is optional, but three to five linear feet should be ample, at least for a moderate sized engine. If the exhaust line is 3-inch pipe, the jacket size should be 5- or 6-inch to provide an annulus of approximately an inch all around. For good results it also is advisable that the line be inclined. On the top of the upper end of the jacket a 1½-inch hole is cut, and a ½-inch hole is cut in the exhaust line at that point. Over the latter is welded a vertical ½x6-inch pipe nipple, and over the larger hole in the jacket housing is welded a slightly longer 1½-inch nipple. The latter is threaded at the top to permit attaching a collar in which a pipe plug may be screwed. Near the lower end of the jacket a ¼-inch hole is cut and a collar of that size is welded on. Here the water supply line is tapped into the system, a small valve being placed in the line conveniently nearby.

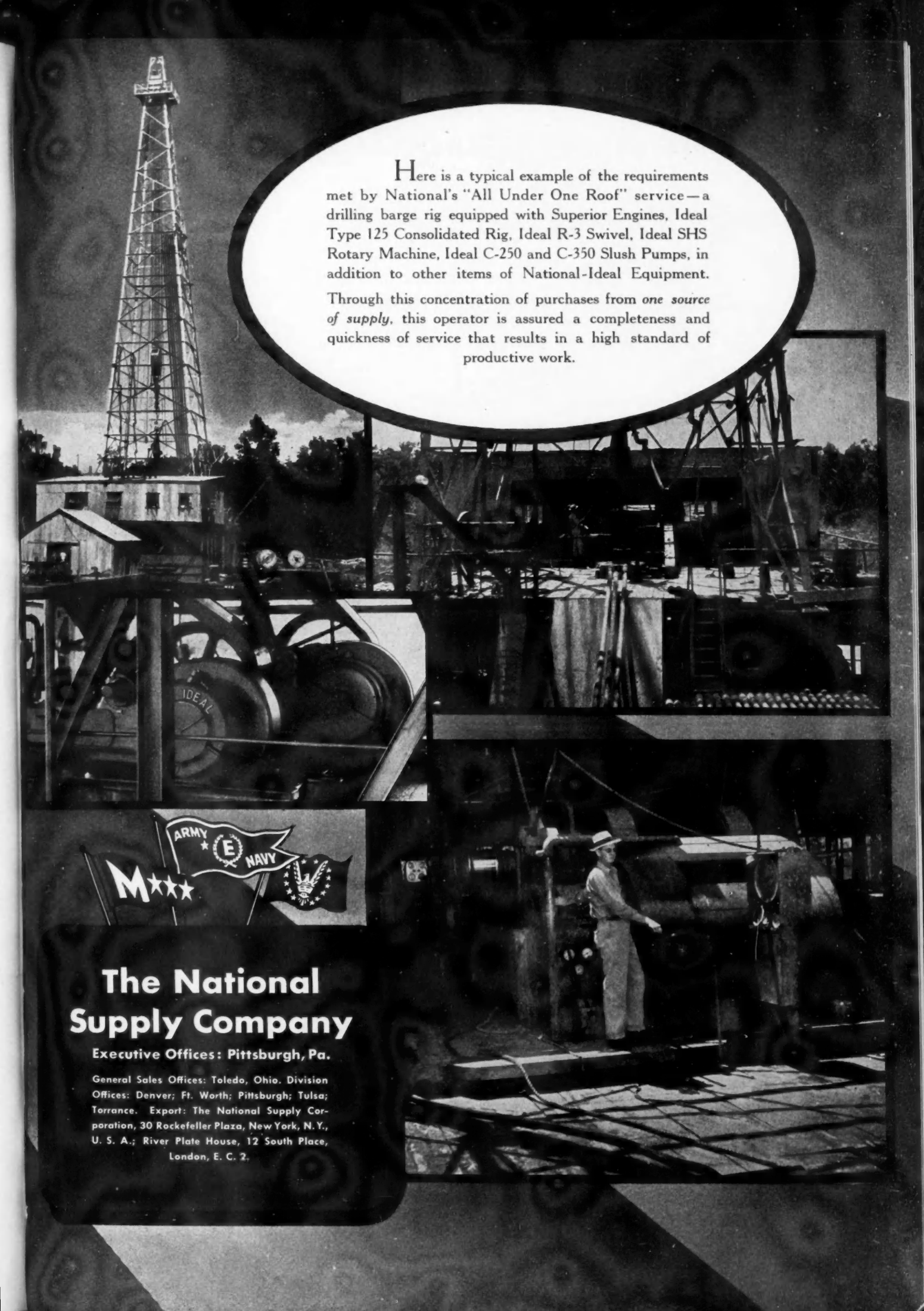
At the time the engine is started, the water valve is opened and the jacket filled with water. When the level rises inside the 1½-inch nipple to the top of the small ½-inch riser, the valve is pinched down until only a trickle of water overflows and runs into the inner exhaust line. The quantity of water admitted to the exhaust chamber through this small overflow pipe may be regulated to suit circumstances, and it will be necessary occasionally to check the end of the exhaust line to ascertain the quality of the escaping gases. An optimum point will shortly be reached where a maximum quenching and cooling effect will be obtained with minimum consumption of water.

Requiring little if any more water than other cooling systems, this cooling jacket absorbs much of the heat as the gases first strike the right-angle turn in the exhaust line. Absorbing this heat, the constantly replenished water is moved up to the vent where it is admitted to the inner exhaust line, and being already heated up, is easily reduced to a vapor or at least partially broken up into fine particles due to the heat and velocity of the exhaust gases. Because of the velocity of the exhaust gases, there exists, also, a siphon effect on the water and it will be sucked into the stream below, assuming that there is no back pressure in the exhaust line itself. By the time the gases reach atmosphere at the end of the line, the water will have so thoroughly contacted the gas and ignited particles that little or no fire hazard will exist from that source.

One of the desirable features of this type of cooler is its conpactness. Easy to assemble, the unit becomes an integral part of the exhaust assembly, and as on most small drilling units, that part of the exhaust line is usually left attached to the unit while moving. All that is necessary on moving is to break the small water supply line at the union located near the valve. For easier shop construction it is better to have a flange connection for the exhaust at the point where the latter connects into the engine manifold. Simple in construction and consuming little more space than the former exhaust assembly, this water cooling system is especially desirable on portable drilling rigs where space is at a premium, and dissembling and moving time must be held to an absolute minimum to help hold down drilling costs.



The small line is tapped into the lower end of the jacket and provides supply which fills annulus and overflows inside riser to smaller nipple tapped into exhaust leg, providing regulable flow into exhaust, while at the same time furnishing back-pressure head which resists detouring of exhaust gases.



Here is a typical example of the requirements met by National's "All Under One Roof" service—a drilling barge rig equipped with Superior Engines, Ideal Type 125 Consolidated Rig, Ideal R-3 Swivel, Ideal SHS Rotary Machine, Ideal C-250 and C-350 Slush Pumps, in addition to other items of National-Ideal Equipment.

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Improvised Road-Ripping Tool Speeds Pipe-Line Highway Crossings

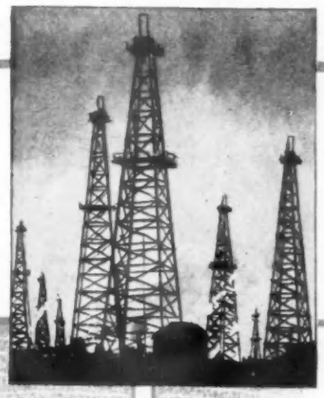
Section of I-beam formed by welder to give desired cutting edge and foot to regulate depth, may be pulled by winch line from service truck, and guided by but one man, reducing labor requirements for traversing compacted or hard-pan areas

DIGGING ditches for miscellaneous lead lines about the lease often becomes extremely hard work when such lines have to cross old road surfaces and hard-pan areas. It is impractical to have a ditch-digging machine come in for only these short lines and the manpower problem is such that it is not practical to have a crew of men spend a day or two cutting through difficult spots with hand tools. To speed up such work and at a minimum of labor cost, one operator devised a small road-ripping tool that can be pulled by a lease truck and handled by only one man.

Cut down and modified from a 4-foot length of 10-inch I-beam, the tool is easy to make in the welding shop and uses no materials that cannot be salvaged from scrap. The pointed end of the tool may be tipped with a hard metal welding rod, but it has been found that for all ordinary work, even this is not essential, as the tip formed by the cutting away of the I-beam metal can be trimmed down occasionally with a cutting torch whenever it becomes dulled. Contrary to what might be thought, that the digging point should be pointed downward to provide "bite," the existing arrangement performs very well and is easy to operate and hold at a constant depth by holding on to the vertical pipe handle welded to the top of the tool. For additional strength on the back of the tool, the flat portion of the cut-away section of the I-beam is welded to the top at the point where maximum stress sets up just above the underside cut-away part. An eye or loop hitch made of sucker-rod material is welded to the front end of the tool.

In operation, the truck is firmly chocked in place at some convenient distance ahead of the ditch, and the tool is hooked on to the truck's winch line. On application of a slow, steady pull, the tool is made to bite into the hard surface and will maintain an even depth, ripping up the hard material and allowing men in the crew to follow later and complete the ditch in the softer earth below.

Built up by welding scrap materials to section of 10-inch I-beam, this breaker, shown below, holds below hard surface and effectively rips away material to permit pick-and-shovel gang to complete ditch across right-of-way with minimum of hard labor.



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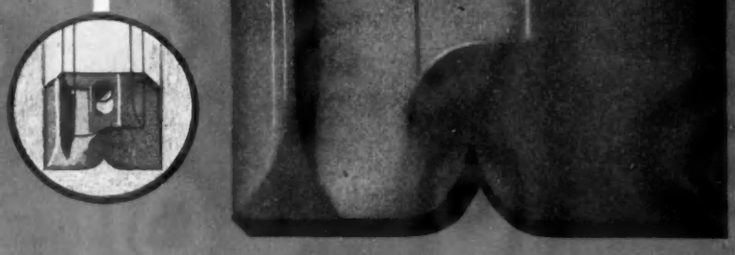

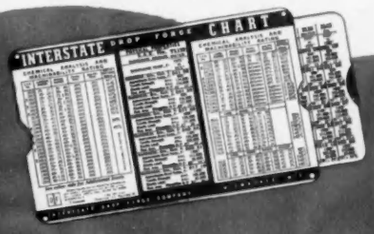

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PRACTICAL OPERATING *Hints* FOR THE PRODUCTION MAN

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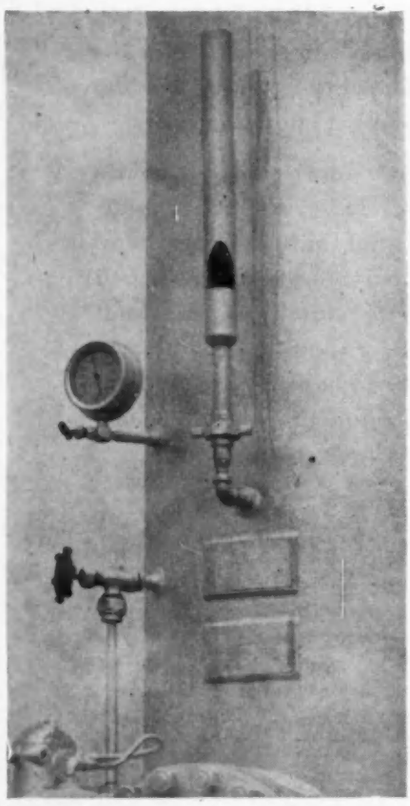
In this and the succeeding three numbers, *The Oil Weekly* will review operating hints which have been carried in this section during the past four years. Selection of the hints to be re-published has been made on a basis of their especial application to wartime conditions, their coverage of operating problems which are most apt to confront the man new at his job, and their value to widely separated areas. The 50 hints cannot hope to solve all problems, but are offered that they may serve to speed operations and thus to contribute to increased oil discovery and production.

1. SEPARATORS

Overload Signal Prevents Flow Loss



Mounted above rupture disk opening, this whistle signals escaping gas and aids identification of unit site.

DUE to remoteness of many high-pressure flowing wells from production office or doghouse, sometimes exceeding a mile or more, one company operating in the San Joaquin Valley, California, has found it advantageous to install a shop-made whistle on the downstream side of the rupture disk on each primary high-pressure separator.

Normally operating at 470 pounds, the traps are equipped with disks that will blow out at between 750 and 800 pounds. Changes in atmospheric temperature, causing freezing of the lines or fittings, usually account for the greatest number of rupture disks blown out.

On breaking the disk, the high pressure gas will escape through the whistle, creating a far-reaching note similar to that of a fog horn. The whistle, constructed of a 2-foot length of 2-inch pipe and mounted on the side of the separator, immediately identifies the well at which the trouble has occurred.

Before installation of the whistles, it quite often was difficult for the pumper to hear the noise of the escaping gas alone, particularly if the prevailing wind happened to be blowing in the opposite direction, resulting in further damage to the equipment or drenching the surrounding location with crude oil before the break was discovered.

2. CONNECTIONS

Unitized Manifold Cuts Field Work

CONNECTION of well flow lines to field tanks has been so well standardized by one producing company in the West Columbia field that much of the pipe work is done before going to the tank farm or lease.

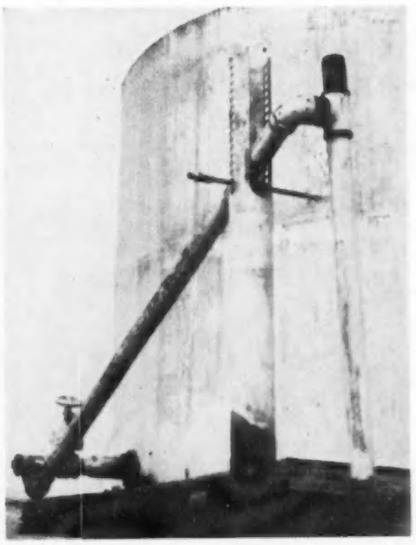
Manifolds for tying wells to the tank lines are made up by the welder, under shelter and in time not otherwise required for maintenance work. Parallel horizontal runs are equipped with risers, separable gasket type unions, valves and cross-overs, so that the unit as assembled may be taken to the tank battery and there tied in by making a minimum of field welds, and those straight butt-weld connections without angles or bevel to be computed after arrival on the job.

Built up to standard dimensions, these tank flow manifolds can be cut into field lines with minimum time loss.

Field and tank lines are laid long enough so they may be cut off with the torch to coincide with open ends of the unitized section, after which the unit is dropped into place and welded.

3. BRINE HANDLING

Adjustable Support Checks Oil Waste



Slotted pipe, with adjustable stop pin, permit accurate levelling of oil-water contact for best well flow.

RAPIDLY changing water-cut conditions on an old lease prompted one company to construct adjustable sturdily supported grasshopper legs for their lease and gauge tanks. Some water-cut wells being produced at irregular intervals due to curtailment regulations made it necessary to adjust the water-oil contact level in the tanks frequently.

The supporting post for the grasshopper leg consists of a 12-foot length of 8-inch casing set in concrete, in the top end of which an 18-inch slot has

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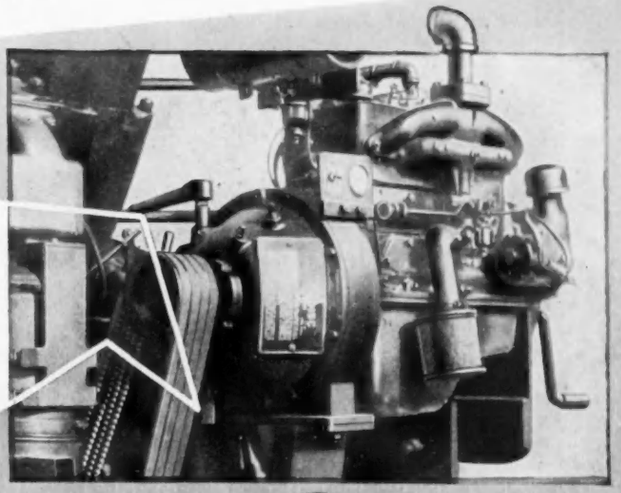
FACTS about your Climax engine

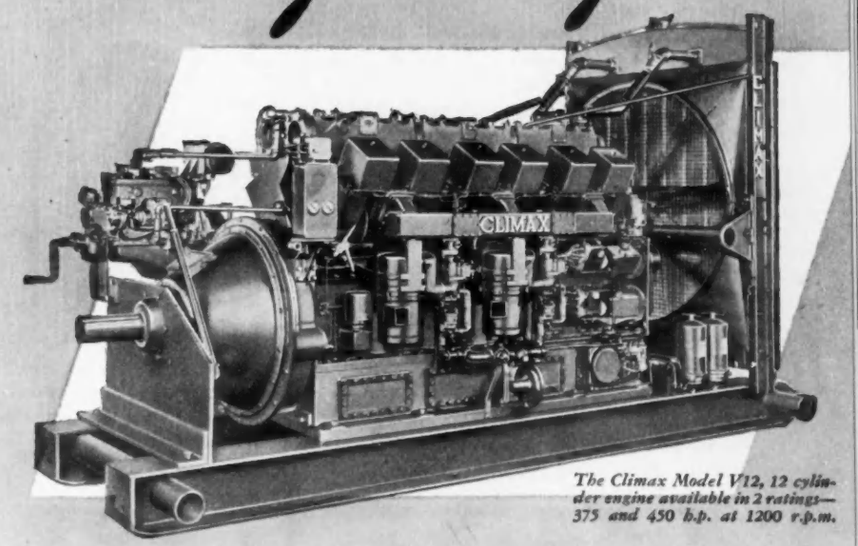
Climax BUILT-IN Gasoline Starting Engine



Power for instant starting of your Climax drilling engine is supplied by a small gasoline engine built into the larger unit. This modern accepted method ends electric starting failures due to weak or run-down battery or other trouble, and provides a quick, powerful turnover in all weathers and climates.

Operation is simple and unfailing. The small engine is mounted on the drilling unit in the manner shown. It is equipped with a clutch and a Bendix drive which turns over the drilling engine. As soon as the big engine starts, the clutch is disengaged and the auxiliary engine shut down.

Climax drilling units are successful because they are engineered for the job. All design features and equipment which field conditions indicate as necessary have been incorporated into these engines.



The Climax Model V12, 12 cylinder engine available in 2 ratings—375 and 450 h.p. at 1200 r.p.m.

Among these are:

DUAL CARBURETION • BLUE STREAK COMBUSTION • DUAL SPARK PLUGS • DUAL MAGNETOS • TRIPLE FUEL EQUIPMENT • POWER TAKE-OFF AND SUPPORT • STEEL SKID MOUNTING

TAKE CARE ...of your present Climax Engines

1. Keep engine lubricants clean, and maintain oil at proper level. Change oil after each 100 hours of operation.
2. Keep cooling system free of scale, to prevent warpage of cylinder blocks and damage to heads. Clean and flush cooling system with scale remover every three months.
3. Maintain tappet clearances at those shown on engine nameplate. Check every two weeks with thickness gauge.
4. Keep fuel clean.
5. Keep outside surface of engine clean and dry to prevent ignition harness failures.

Climax Engineering Company

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REGIONAL OFFICES: **Chicago, Ill., Dallas, Texas**

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1406 S. Grand Avenue, **Los Angeles, California**

been cut wide enough to allow the 3-inch drain-off pipe to move up and down freely. On opposite sides of this slot, two rows of ¾-inch holes were drilled on approximately 1¼-inch centers. A short section of ⅝-inch sucker rod run through any of the holes supports the grasshopper leg at any angle that may be needed at the tank.

This simple support proved to be easier, safer and more positive in action than using wooden stilts.

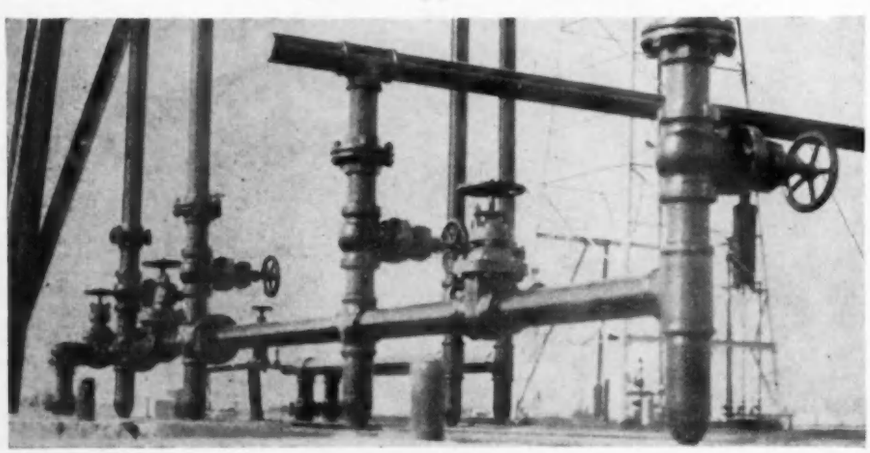
4. MANIFOLDING

Bullplug Supports Provide Flexibility

GOOD production practice is to never allow pipe lines—especially those containing high pressure oil or gas—to extend without being firmly supported in such a way that no physical strain is present on the fittings in the line.

One company applied this principle in a practical and neat-appearing manner on each well by setting crosses or tees at several convenient places, and then using bull-plugs to form the bottom supports. In a typical installation, the oil and gas lines and valves connecting the well to the over-head trap were conveniently located in a manifold on the derrick floor, and at just the right height to permit use of standard 2-inch bull plugs for supports.

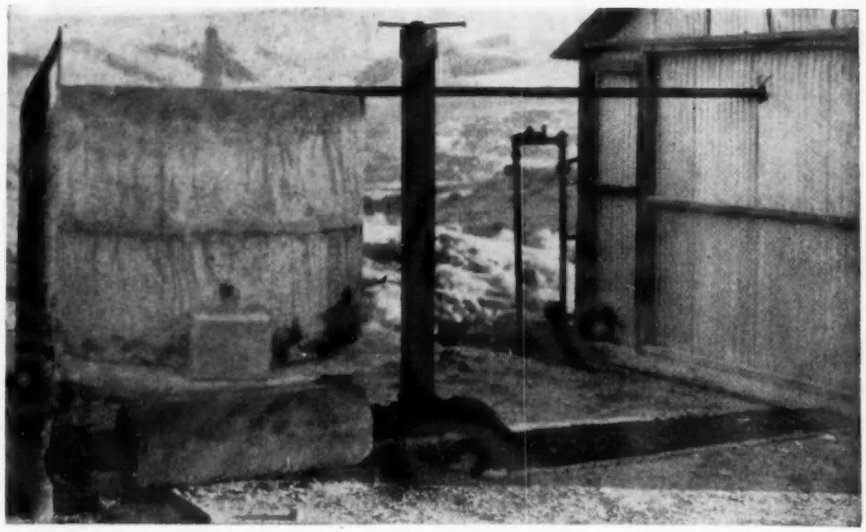
Replacing the blocks commonly used at such points, the bull plugs make it possible to clean the floor more easily. Bull plugs placed at such points where the flow stream makes a right-angle turn likewise allow sand particles to accumulate where no harm can be done. At the same time, they create cushions as such corners, allowing the force of the stream to be expended against a dead end of fluid or gas, instead of cutting into elbows or pipe walls.



By using tees and crosses at low points in well hook-up, and setting standard bullplugs in lower openings, self-adjusting support is afforded for expansion shifts of all units.

5. POWER UNITS

Extra Stack Cuts Engine Backpressure



The stack beyond the muffler normally cares for pumping engine exhaust, while plug is removed from second stack to provide outlet for gases when unit is working at overload.

INSTALLING an extra stack to the exhaust line and muffler, saved one company cost of installing an entirely new exhaust system.

It was found that a 15-inch by 4-foot muffler and a vertical stack made of 6⅝-inch pipe, while providing sufficient volume for the normal pumping speed of the 30-horsepower single-cylinder engine, was inadequate for the power required of the engine when pulling the well with the bull-wheel. A tee was placed in the line just ahead of the muffler, and a 6⅝-inch stack similar to the original one was installed.

The sharp bark of this unmuffled stack was not objectionable to nearby residents during the relatively infrequent periods the well was being pulled, a screw plug fitted with a cross-bar handle of sucker-rod material being screwed into the top of it so that the normal muffled exhaust would be retained while the well was pumping.

With the extra stack open, better scavenging action was obtained, resulting in better performance and less heat developed in the cooling system of the engine.

6. SAMPLING

Gas-driven Shake-out Standardizes Runs

A GAS-DRIVEN centrifuge may be mounted on the gas line from separator and supported on a small platform, offering a convenient method for the pumper to determine water and basic sediment content of the well flow. A platform may be made from a small piece of ½-inch steel plate welded to a bracket, which is in turn bolted to the vertical section of pipe leaving the separator to convey gas to the flare for disposal. An adequate platform is 4 inches wide and 18 inches long, on the top surface the centrifuge being attached near the outer end for necessary clearance of the revolving tubes.

Four-inch upright arms of sucker rod are welded to corners of the table to support a broad rim of lightweight big-inch pipe cut approximately 5 inches long and positioned to span the centrifuge in its center.

A hole drilled into the wall of the gas line suitable for connecting a ½-inch nipple is equipped with a valve leading to the centrifuge. By opening the valve, gas is diverted from the line with suf-

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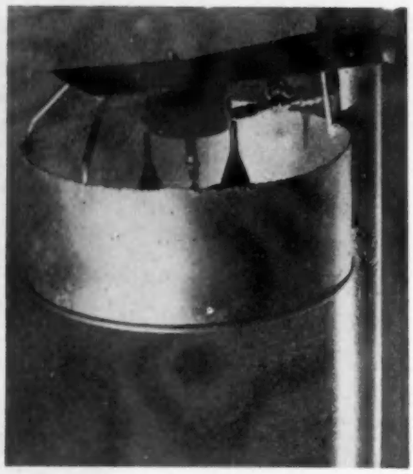


Gas turbine, powered by separator flow, drives centrifuge and eliminates tedious hand operation of unit.

ficient pressure to operate the centrifuge, while the wide rim surrounding the centrifuge as it rotates furnishes protection to the device and also prevents splashing or whirling oil samples on the separator, keeping the equipment clean.

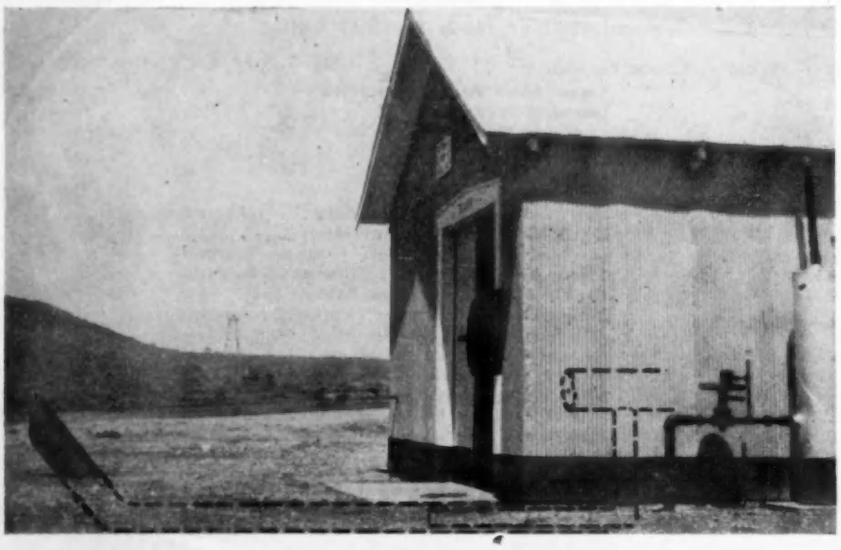
7. VENTILATION

Exhaust-powered Vent Insures Air Change

A COMPANY operating in Western Kansas makes it a standard practice to install large-bore single-cylinder 2-cycle engine exhaust outlets so that the engine house will be ventilated automatically when the engine is running.

The exhaust pipe normally consists of a single line extending from beneath the cylinder downward to the floor, thence under the floor to an outlet above ground outside. The 7-inch engine exhaust line is allowed to exhaust into a length of 12 or 14-inch casing that leads to the outside. This larger line extends under the floor to a point just below a steel floor grating that covers a 3-foot square opening in the concrete floor surrounding the exhaust pipe. The smaller exhaust line then projects into the larger pipe several feet.

The jet-effect of this system effectively draws out engine fumes and gases from the engine room while the engine is running.



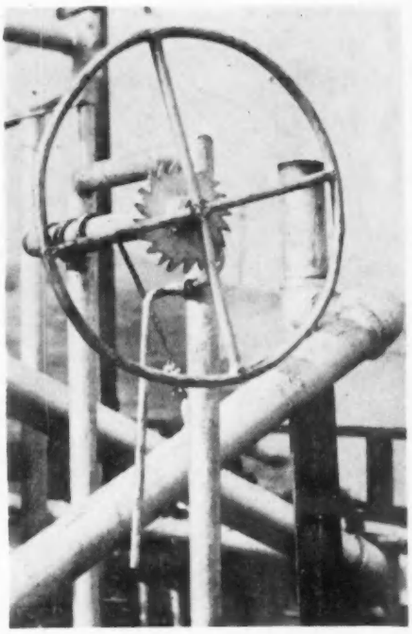
Exhaust outlet, centered within larger pipe, effectively provides flow of fresh air into station building and insures against hazard from gas loss or back pressure from fumes.

8. PIPE LIFT

Simple Windlass Handles Drain Leg

TO PREVENT injury to workmen while attempting to lift heavy water-filled siphons of grasshopper legs at several tank batteries, the superintendent of one company designed a simple lift.

The device essentially is a hand-wheel operated windlass equipped with a cog-wheel that allows the grasshopper leg to be accurately spotted at any desired run-off level in the tank. Twenty teeth were torch-cut around the circumference of an 8-inch disc of ¼-inch steel plate. A hole through the center of the disc permitted it to be slipped over the end of a 2-inch pipe axle, and welded there several inches from the end. The axle was mounted so as to turn horizontally in simple bearings welded to 2-inch vertical pipe standards straddling the grasshopper leg. A 5-foot length of light steel line was attached to an eye welded to the heavy pipe, its other end



Built from scrap materials, this device provides quick adjustment of salt-water flow pipe at tank.

being clamped to the 2-inch axle. A lock consisting of a length of sucker rod and fitted to engage the cog teeth permits a fine but positive adjustment in properly locating the leg.

A 24-inch diameter hand wheel welded to the end of the axle supplies ample leverage to enable one man quickly to adjust the grasshopper leg to any desired location.

9. SAND REMOVAL

Dual Traps Protect Separator Unit

WHERE quantities of sand are produced, the sand is often deposited in the separators to such extent that their efficient operation becomes an impossibility, and troublesome cleanout jobs are required to prevent the units from becoming completely clogged.

A Gulf Coast operator having production containing a small percentage of sand uses a special knockout device to remove as much sand as possible prior to entrance of fluid into the separator. The apparatus consists of two vertical chambers a short distance from separator, designed to allow accumulation of fluids, with overflow pipes directing flow from top of cylinders into the separator. Retarding movement of fluid in passage through the cylinders affords the heavier sand opportunity to settle to the bottom. Accumulated sand is cleared at intervals by means of a drain leading to a nearby pit.

The sand knockouts are of 10-inch

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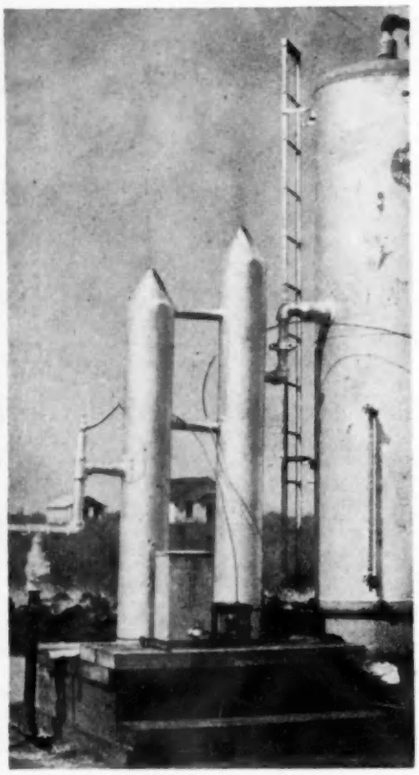


Flow through these traps ahead of separator affords ample settling time for entrained sand removal.

pipe, the first receiving the fluid being 6 feet in working height while the second is approximately 7 feet. A 2-inch flowline from the well empties fluid into the first cylinder at a point near its center. Two-inch overflow pipes are placed in position to transfer all fluid above the desired level into the adjacent cylinder, which is similarly arranged with its overflow conducting to the separator. Small tubes joined with a chemical injector are attached to the main flowline pipe before its junction with shakeout, with small amounts of chemicals added to the flow to facilitate separation of sand, most of which is retained in the first cylinder, although excessive sand may overflow into the second chamber, to be trapped there.

10. TRUCKING

Wheel Chocks Check Winch Unit Shift

SKIDDING and hoisting of heavy equipment around the lease is being speeded up considerably by one West Texas company through use of a pair of easily handled chocks which firmly anchor the winch truck at the desired spot.

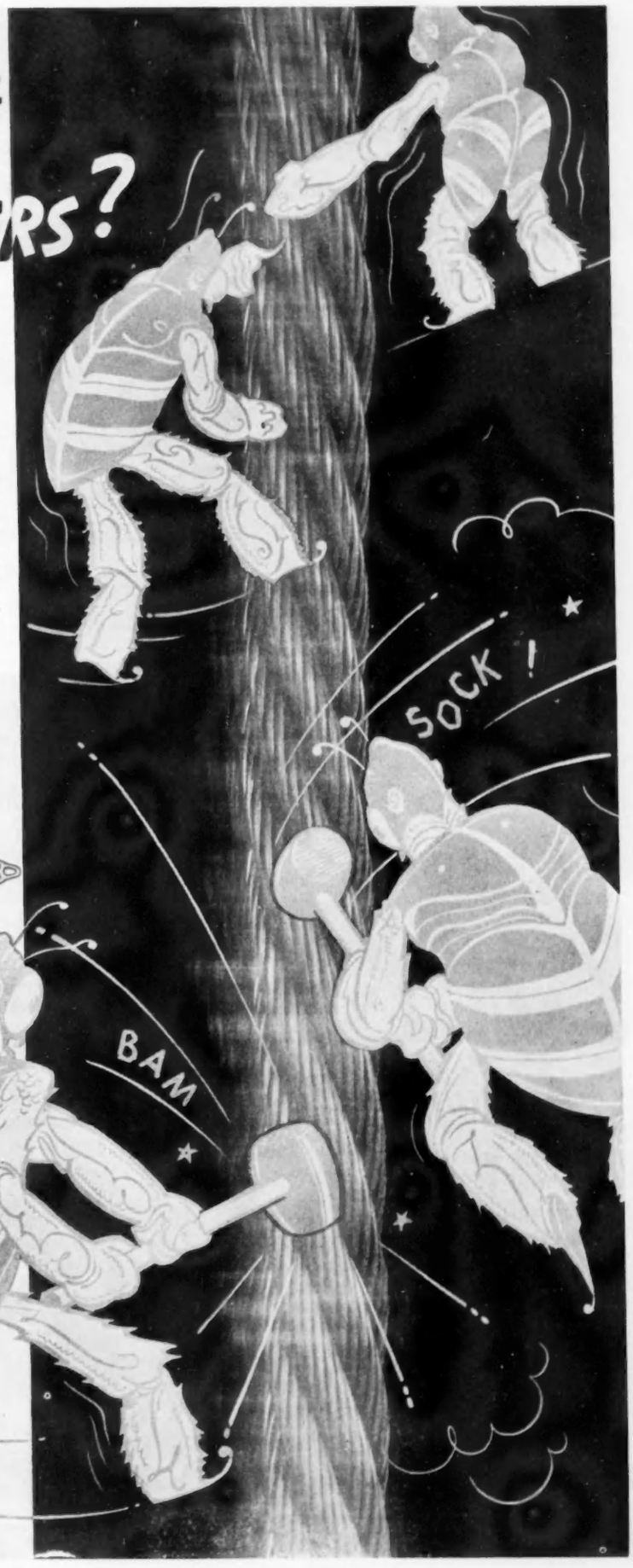
The chocks consist essentially of two 2-foot lengths of 4-inch angle iron, connected to the truck by means of a sturdy chain, and which may be lodged or wedged beneath the rear wheels. In one case the two chains were connected to the truck bed up near the power winch. When the winch starts to take up the load, the tendency for the truck to be pulled backward is held in check by the chocks which are held all the more firmly beneath the rear wheels, and which act as drags that prevent the truck from moving back bodily.

The chocks are thrown up on the truck bed between jobs, and since they are kept on the truck at all times, there is little chance of their being lost as would be the case with wood blocks commonly used.

This type of chock is particularly suited to jobs where the winch truck is used in connection with a ground anchored snatch block and gin pole, for shifting and loading of heavy fittings, pumping units, tanks and other lease equipment.

Chocks of 2-foot sections of 4-inch angle iron, chained to truck frame to provide spotting means, afford positive stop against which unit may be set for heavy winch pulls.

why tolerate LINE JITTERS?



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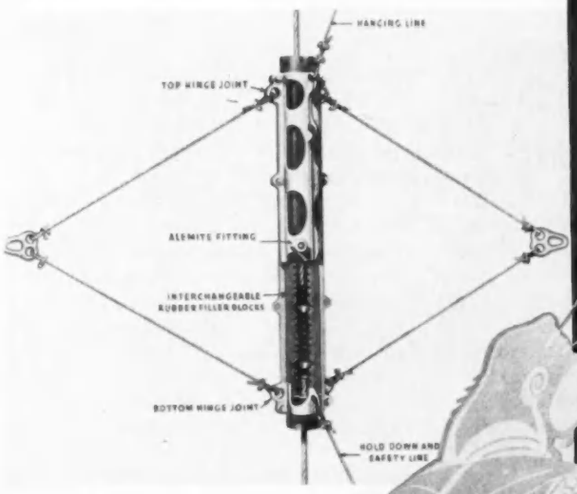

See Composite Catalog

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PATTERSON BALLAGH WIRE LINE GUIDES

PRACTICAL OPERATING *Hints* FOR THE PIPELINER

$5.00 will be paid for each illustrated acceptable contribution. Mail to The Editor, THE OIL WEEKLY, *Houston*

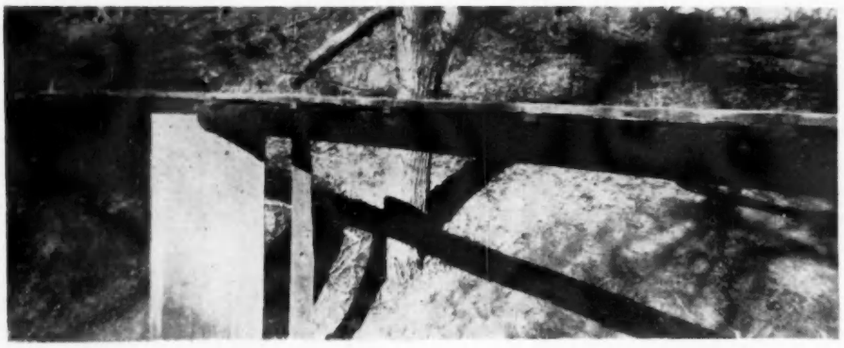
1. *LINEWALKING*

Pipe-based Catwalk Speeds Inspection

WHERE pipe lines cross gullies, small streams and other relatively narrow breaks in the terrain, the tendency for the linewalker is to cross on the pipe, rather than take the more or less difficult detour on solid ground. A wet pipe or muddy shoes may result in a serious injury to the man thus attempting a short-cut.

One company utilizes the pipe itself as main support for a single 2 x 12-inch plank crossing, the walk being fastened to the pipe with U-bolts and held in place above short cross members of 2x4-inch lumber, shaped to conform to the curve of the pipe on the contacting side.

Addition of a light hand "rail" of discarded sand line, supported at the ends of the pipe span on posts to bring it to the desired hand level, adds to the security of the walk, even though the average user will cross without once touching the line.



Saddle-shaped blocks of 2 x 4 support 2 x 12 walk atop pipe line crossing gulley, unit being tied together with U-bolts spanning pipe and through cross members so as to simplify slack taking.

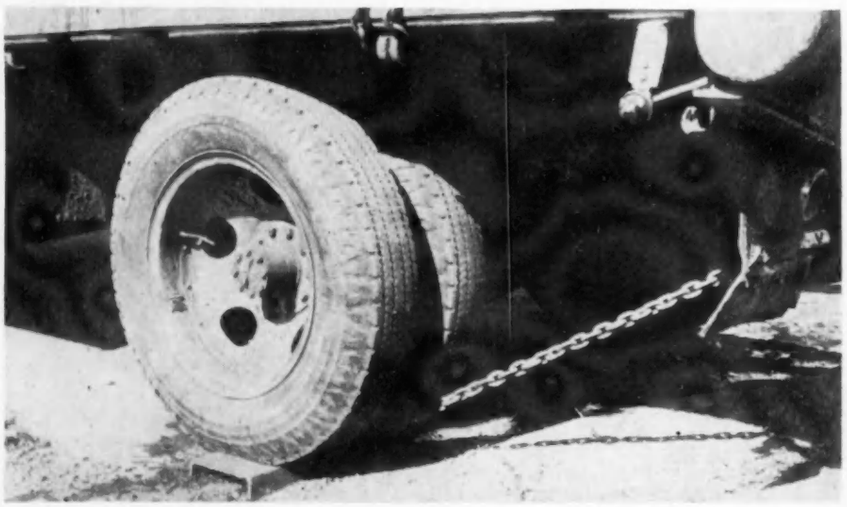
2. *TRUCK OPERATION*

Anchor Plates Check Winch Line Skids

CERTAIN pulling or towing jobs in pipe-line work require a light tractor, but often such equipment is not immediately available and the service truck must serve. While most trucks have sufficient winch power, the problem usually arises of not being able properly to anchor the truck to prevent skidding.

One pipe-line contractor solved this problem by anchoring his winch trucks in the following manner. One end of a short length of heavy chain was fastened to an 18-inch section of light channel iron and the other end bolted to the truck frame, in line with the center-line of the truck wheels. Just long enough to reach to the point of contact of the wheels on the ground, the chain permits the channel iron to be centered with the tread. The truck is then backed up on it. With the weight of the truck causing the iron to bite into the ground, the truck remains securely anchored during the heaviest pulling jobs.

Regardless of the nature of the terrain, whether it is pavement, hard-pan or soft plowed ground, the device will function equally as well. On soft ground, for example, the broad flat surface of the iron will tend to "float" on the sur-



Chained to body, these plates are set so truck wheels rest on them during winch operation, the channels gripping ground and providing full and clean bearing for truck tire treads.

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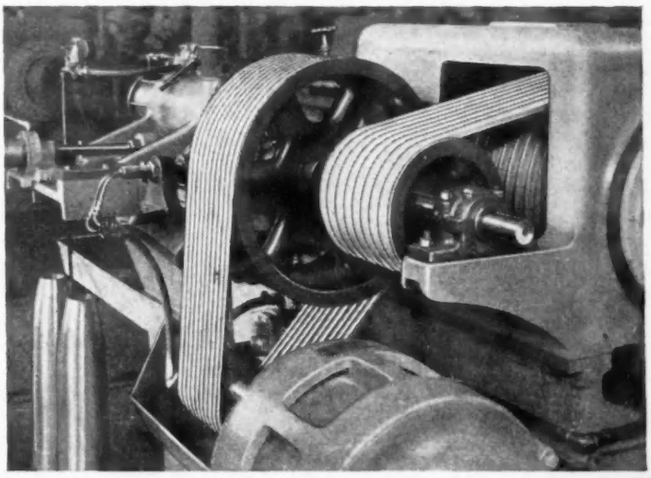

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This long *head-start* in the fabrication of synthetic rubber V-Belts was no accident. It was started deliberately, in peacetime and not under pressure of necessity. The synthetic rubber selected by Gates is a very *special* synthetic rubber—not in any sense merely a "substitute" for rubber. In certain very important applications it is *greatly superior* to natural rubber.

For example:—one special synthetic rubber selected by Gates has the unusual characteristic of withstanding oil and heat much better than even natural rubber. Where heat and oil conditions are especially severe, Gates special synthetic V-Belts are outwearing any natural rubber V-Belts by as much as 230%.

Of the very greatest importance to V-Belt users today is Gates' unusually long experience and success in making V-Belts of synthetic rubber. This is especially important now because the time has come when Gates' superior knowledge of synthetic rubber can be put to work for you right in your own plant.

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★

THORNHILL-CRAVER COMPANY
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face, not only preventing the wheels from spinning, but keeping them from grinding out a hole from which it would be difficult later to extricate the truck. Elimination of skidding and wheel spinning will go far toward conserving the truck tire treads.

While the truck is travelling about the lease, the channel and chain are hung on a short hook welded to the upper portion of the frame. While just the one anchor-iron usually is sufficient to hold the truck in position, two are carried, one on each side, so even the heaviest jobs can be handled.

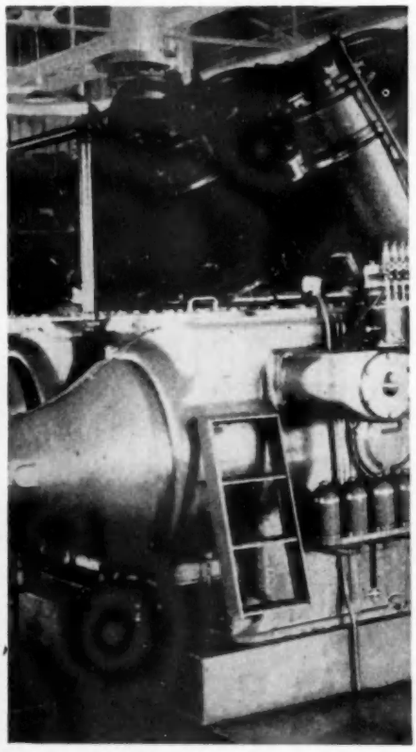
Since a day's work for pipe-line trucking equipment may involve every type of terrain, these anchor plates will easily pay for themselves in time saved on only a single towing job.

3. *SAFETY*

Elevated Ladder Aids Floor Cleaning

LADDERS on engines, pumps and compressors to provide ready access to elevated operating points frequently complicates the cleaning of the station floor, and all too often serve to accumulate beneath them refuse, oil or water and thus form a hazard to safe plant operation.

By forming a ladder of the proper height to afford the desired access, hanging the top on the frame of the unit, and supporting the base on a self-contained bracket slipping over and tightened by one of the foundation bolts, the floor below the ladder may be kept clear, and cleaning, painting and access to the unit improved by the suspended ladder.



Bolted to engine, and carried on bracket supported on foundation bolt, this ladder uses no floor space.

4. *VALVE CONTROL*

Extension Stem Speeds Emergency Shutdowns

Extension welded to valve stem, with support to prevent bending, this device speeds manipulation of buried unit.

QUICK action is necessary, when, in the event of an emergency, a battery of boilers has to be shut down. Near a semi-permanent boiler setting where fuel gas is brought in an underground line to the battery, one company installed an easily-manipulated extension to the main gas line to permit speedy action whenever an emergency arises.

The hand-wheel was removed from the supply line gate valve, and a 4-foot vertical extension welded to the valve stem, bringing it up through the plank cover housing, other gates and junction fittings. The wheel was re-attached to this extension. In addition, a right-angle turn grip was welded to the rim of the wheel to permit spinning the valve in closing it. Lending stability to the extension is a three-legged support made of ¾-inch pipe, the flattened feet lag-screwed to the planks and the upper ends welded to a collar encircling the stem. Painted red or any brilliant color for quick recognition, the convenient hand-high valve wheel should be inexpensive insurance in an emergency.

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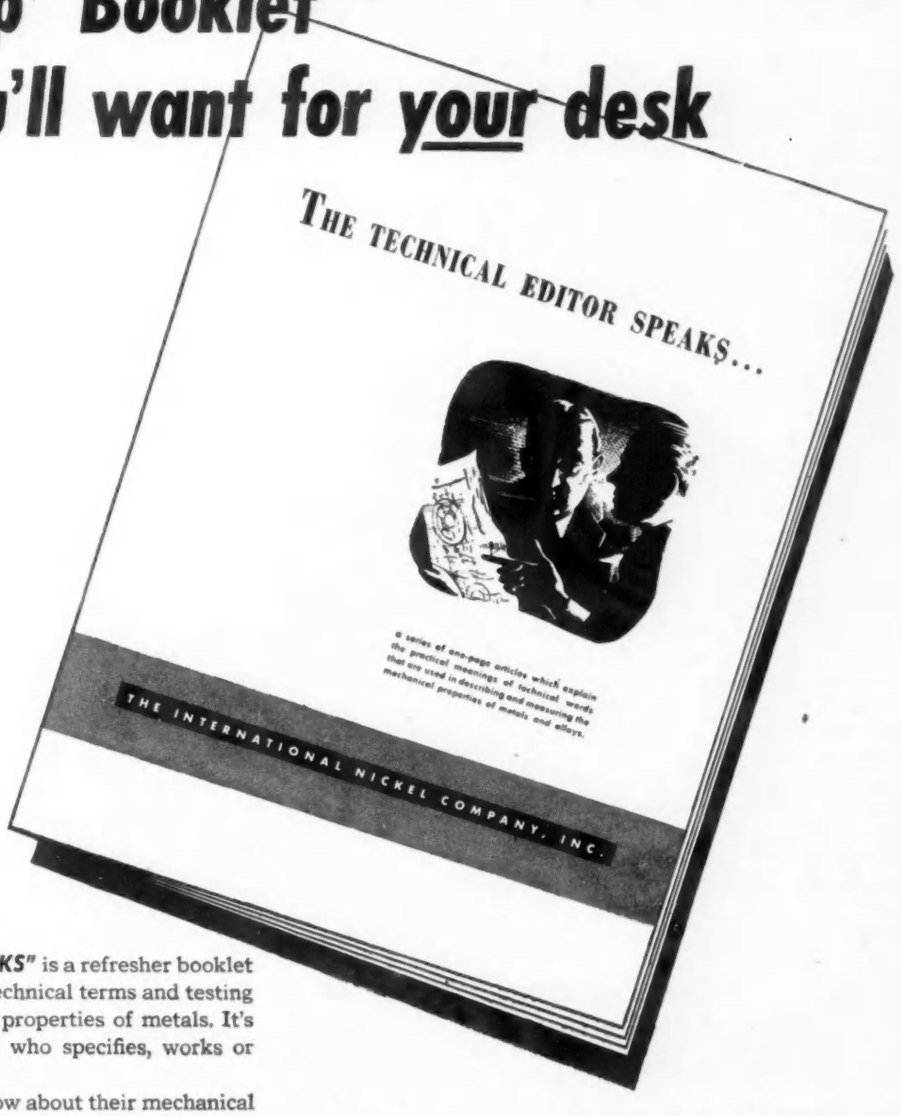
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Good Exploratory Start for Year But Wildcat Successes Few

January's 324 completions show only 12.3 percent producers as against 18 percent in January, 1943, but year-to-year rate of increase continued through 1944 would give U. S. 4500 tests

By L. J. LOGAN, Associate Editor

THE record of wildcatting in the United States in January was not encouraging, except in so far as it reflected extraordinary effort to find new sources of petroleum. Exploratory drilling was carried on at an exceptionally high rate, but results were definitely unfavorable, as discoveries were comparatively low in both number and quality.

Exploratory tests were completed during the month at the rate of nearly 3900 annually, a rate which if maintained through the year even without the customary expansion of later months would establish 1944 as a new peak year in the definite records of wildcatting, which have been kept up now for nearly a decade. In 1943, also a very active year, under wartime need for new sources of petroleum, approximately 3600 exploratory tests were completed.

Actually, it is to be expected that wildcatting in coming months will expand above the January rate, in line with usual experience, because of weather conditions and other factors, and this expansion would mark 1944 as a very extraordinary year in searching for petroleum.

The 324 exploratory tests completed in January, 1944, compared with 261 in January of 1943, an increase of 24 percent. If that year-to-year rate of increase were continued through succeeding months, there would be completed in 1944 a total of approximately 4500 exploratory tests, and there would be actually achieved the volume of wildcatting that PAW has set up as the goal for the year. The 324 completions of January, 1944, compare with only 249 for January, 1942, an increase of 30 percent.

In spite of the greatly stepped-up rate of wildcatting currently, however, net results in the form of new sources of oil, distillate, and gas compare poorly with those in former years.

Of the 324 exploratory tests completed in January, 1944, only 12.3 percent were productive, and 87.7 percent were dry holes. As compared with the 12.3 percent of all tests that yielded production in January, 1944, there was a proportion of 18 percent for both January, 1943, and the year 1943 as a whole.

Compared with January two years ago, the results in the first month of

■ CONTINUED ON PAGE 37

Results of Wildcatting in United States During January, 1944

This report embraces approximately one full month's wildcatting, although not exact results for the month. It includes some wells completed during late December but omits some completed in late January

STATE OR DISTRICT	DISCOVERIES IN JANUARY, 1944						EXTENSIONS IN JANUARY, 1944			TOTAL PRODUCTIVE TESTS IN JANUARY		DRY HOLES				TOTAL EXPLORATORY TESTS IN JANUARY	
	Oil		Distillate		Gas							January, 1944			Jan. 1943 Total		
	New Fields	New Pays	New Fields	New Pays	New Fields	New Pays	To Oil Fields	To Dist. Fields	To Gas Fields	1944	1943	Wildcats	Outposts	Total		1944	1943
Arkansas	....	....	1	....	....	....	....	....	....	1	....	2	....	2	4	3	4
California	....	....	....	....	1	....	....	....	....	1	1	20	....	20	10	21	11
Colorado	....	....	....	....	....	....	....	....	....	....	....	1	....	1	....	1	....
Illinois	1	5	....	....	....	....	....	....	....	6	13	33	....	33	23	39	36
Indiana	2	....	....	....	....	....	....	....	....	2	1	8	....	8	12	10	13
Iowa	....	....	....	....	....	....	....	....	....	....	....	....	....	....	2	....	2
Kansas	2	....	....	....	....	....	....	....	....	2	3	38	....	38	34	40	37
Kentucky	1	2	....	....	....	....	....	....	....	3	....	12	....	12	4	15	4
Louisiana	....	1	....	....	1	....	....	1	....	2	1	8	....	8	5	11	6
North Louisiana	....	1	....	....	....	....	....	1	....	1	....	5	....	5	3	7	3
South Louisiana	....	....	....	....	1	....	....	....	....	1	1	3	....	3	2	4	3
Michigan	2	....	....	....	....	....	....	....	....	2	3	18	....	18	14	20	17
Mississippi	....	....	....	....	....	....	....	....	....	....	....	3	....	3	1	3	1
Montana	....	....	....	....	....	....	....	....	....	....	....	2	....	2	....	2	....
Nebraska	....	....	....	....	....	....	....	....	....	....	....	4	....	4	1	4	1
New Mexico	....	....	....	....	....	....	....	....	....	....	....	5	....	5	4	5	4
Oklahoma	3	....	....	....	....	....	....	....	....	3	6	18	....	18	36	21	42
Texas	9	2	1	1	1	1	1	1	....	17	19	110	1	111	63	128	82
Rest of East Texas	....	....	....	....	....	....	....	....	....	....	....	13	....	13	3	13	3
North Texas	1	1	....	....	....	....	....	....	....	2	5	24	....	24	12	26	17
West Central Texas	....	....	....	....	....	....	....	....	....	....	5	9	....	9	7	9	12
West Texas	3	....	....	....	1	....	....	....	....	4	1	16	....	16	5	20	6
Texas Panhandle	....	....	....	....	....	....	....	....	....	....	....	1	....	1	....	1	....
Gulf Coast, Upper	1	....	....	....	....	....	....	....	....	1	2	12	....	12	4	13	6
Gulf Coast, Lower	4	1	1	1	....	1	....	1	....	9	3	20	1	21	13	30	16
Southwest Texas	....	....	....	....	....	....	1	....	....	1	3	12	....	12	14	13	17
South Central Texas	....	....	....	....	....	....	....	....	....	....	....	3	....	3	5	3	5
Wyoming	....	....	....	....	....	....	....	....	....	....	....	1	....	1	1	1	1
Total U. S.	20	10	2	1	3	1	1	2	....	40	47	283	1	284	224	324	271
Total Last Month	28	9	....	2	6	3	9	....	....	....	....	....	....	....	....	....	....
January, 1944	20	10	2	1	3	1	1	2	....	40	....	283	1	284	....	324	....
January, 1943	14	18	....	....	5	....	9	....	1	....	47	207	7	....	214	....	261
Percent Change	+42.9	—11.1	+	+	—40	+	—88.9	+	—100.0	—14.9	....	+36.7	—85.7	+32.7	....	+24.1	....

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New Oil and Gas Fields and New Pay Horizons Discovered in the United States in January, 1944

County	Field	COMPANY WELL AND LOCATION	Date Spudded	Date Completed	Total Depth (Feet)	Completion Horizon (Feet)	[1]Name Character and Age of Producing Formation	[2]Initial Production Method and Choke	Gravity of Oil	[3]Structure; [4]Method of Discovery	Preliminary Estimates of Reserves Found: Remarks
		ARKANSAS—New Gas-Distillate Field									
Union	Wilds	Atlantic Ref. Co.'s Mahoney & Murphy 1, ne sw 2-18s-18w, 2 mi nw Schuler fld.		1-28-44	7878	7861-7863	Reynolds Oolitic li., Jur.	F 75	44.0		First comp. at 7847-7852' as 50 mlln. ft gasser. Undecided value.
		CALIFORNIA—New Gas Field									
Butte	Chico Creek	Richfield Oil Corp.'s Chico 1, c ne ne 17-21-1	8-12-43	1-2 -44	7005	4265-4390	Chico ss, Mio.	F 13 mlln, open	Gas	Ant.; Seis., Geol.	Development awaits pipelines.
		ILLINOIS—New Oil Field									
Wayne	Mt. Erie, N.	Felix Jablonski's Orndorff 1, 3-1n-9e nw nw, 2½ mi n Mt. Erie	11-12-43	1-25-44	3226	3107-3115	Aux Vases ss, Miss.	P 47			Nearest wells are dry holes 1½ mi se & 3 mi n; much room for expansion but structural conditions not yet known.
		ILLINOIS—New Oil Pays									
Clay	Flora	Tide Water-Gulf's Graham-Hill 1, 13-3n-6e, sw nw	9-29-43	1-25-44	2989	2880-2898	Aux Vases ss, Miss.	P 42			Other wells in fld produce fr McClosky, but did not record oil shows in Aux Vases.
Edwards	Browns	Superior Oil's Lipper 2, 28-1s-14w, se ne sw		2- 1-44	2948	2782-2790	Bethel ss, Miss.	P 170			S. offset to discov. well of fld, which produces fr Cypress. Nearest dry holes 1½ mi s and ¾ mi w Nearest drlg to n, ne & e about 2 mi.
Jefferson	Markham City, N.	Central Pipeline's Henry 2, 13-2s-4e, sw ne se	12-29-43	1-25-44	2956	2943-2956	Aux Vases ss, Miss.	P 170			Other wells in fld produce fr McClosky and did not record oil shows in Aux Vases; room for fld's expansion to n & ne.
Wayne	Covington	Deep Rock's Harper 1, 32-1s-7e, se ne		2- 1-44	3297		Rosiclare ss, Miss.	P 88			Other wells in fld open in Rosiclare but this is first with Rosiclare recorded as pay.
White	New Harmony Consolidated	Yingling's Potter Comm. 1, 20-3s-14w, se sw ne	12- 1-43	1-25-44	2790	2103-2107	Palestine ss, Miss.	P 56			Many other wells in fld penetrated Palestine without yielding oil in it.
		INDIANA—New Oil Fields									
Posey	S. New Harmony	Sells Petroleum, Inc.'s Herman Wade et al 1, 230 ft fr sl, 330 ft fr el, sw-ne, sec 14-5s-14w, 1¾ mi se New Harmony pool, 2¾ mi sw town New Harmony.	11-21-44	1-19-44	2469	2444-2469	Hardinsburg ss, Chester-Miss.	P 298			
Posey	Upton	Bennett Bros.Drlg Co.'s John W. Spencer 1, ne se sw sec 32-6s-14w; 4 mi w Mt. Vernon pool, 6 mi w town of Mt Vernon.	11- 5-43	12-22-43	2150	2143-2150	Tar Springs ss, Chester-Miss.	P 115			
		KANSAS—New Oil Fields									
Rice		Phillips Pet. Co.'s Click 1, se se ne, 3-18-7w		1- 2-44	3187	3179-3187	Misener ss, Miss.	P 112	39.5	Unconformity; Trnd	Most likely a limited development.
Saline		Margay Oil Co.'s Anderson 1, c nw sw, 3-16-3w		1- 1-44	3505	3363-3368	Viola li., Ordo.	P 413	35.4	Dome; Trnd, Sur., Sub.	Pay section thin, and fld appears minor, but more drlg needed to prove value.
		KENTUCKY—New Oil Field									
Butler	Beach Grove	C. M. Stott's Grubb 1, S-H-33		1- -44	121	100- 121	Tar Springs ss, Miss.	P 5			
		KENTUCKY—New Oil Pays									
Henderson	Smith-Mills	C. D. Burbank's Fee 3, 3-P-21		1- -44	1518	1507-1518	Penns. ss	P 40			
Union	Raleigh	Schio Prodcg. Co.'s Bessie Boswell 2, 14-O-18		1- -44	2824	2820-2824	McClosky li., Miss. L	P 132			Acidized 1,000 gal. Pumped 132 b/d oil, 132 b/d wtr.
		NORTH LOUISIANA—New Pay and Extension									
Tensas	Holly Ridge	Chicago Mill & Lbr. Co.'s Mutual 1, se ne se 12-11n-9e, 2 mi nw Holly Ridge deep fld.		1- 1-44	8025	3012-3024	Wilcox ss, Eoc.	F 120; ¼"			Dry in Tuscaloosa before pb to Wilcox. 2nd well, to s, later a failure in Wilcox, but more drlg to e & n expected.
		NORTH LOUISIANA—Distillate Field Extension									
Webster	N. Cotton Valley	Ohio Oil Co.'s W. T. Gleason 1, 31-22n-9w, 3 mi nw Cotton Valley field.			8648	8452-8482	Bodcaw ss, Jur.	F 293; ¼"	63.3		May later be classified as new field. New test started to sw. Important discov., but may be held down by war restrictions.
		SOUTH LOUISIANA—New Gas Field									
Vermilion		Union Oil Co.'s State-Whitelake 1-A, lse 540, n 64° 57 '29" e 13,093 ft fr USCGS Mon. "Lake" in T-14s-2w.	8-22-43	1- 1-44	12000	10660-10675	Ss, Mio.	F; $\frac{A}{32}$"	Gas	Dome; Geop.	Wkrg pres 2800 lbs. No oil found, but may be with more drlg.
		MICHIGAN—New Oil Fields									
Arenac	Deep River	Basin Oil Co.-Don F. Rayburn's Weblo 1, s½ nw nw, 8-19n-4e, 3½ mi e Adams field.	11-23-43	1- 1-44	2840	2837-2840	Dundee li., Devon	F 239; open	39.0	Ant., Geol.	Four more immediate tests to shed light. No wtr w/oil.
Isabella		Cities Service Oil Co.'s Methern 1, se ½ sw nw 33-16n-3w, 1 mi s Wise fld.	12- 3-43	1-13-44	3698	3690-3699	Dundee li., Devon.	F 380; ¾"	44.0	Ant., Geol.	No water with oil. Pressures: cas. 120, tub. 110.
		OKLAHOMA—New Oil Fields									
Logan		Gulf Oil Corp.'s Pritchard 1, nw nw 22-17-3w		1- -944	6320	4730-4770	Layton ss, Penn.	F 49		Ant.; Seis.	Field in Layton is small; Wilcox was dry.
Noble		Gulf Oil Corp.'s Juanita 1, ne ne ne 1-21-1e		1-11-44	4598	4590-4598	Wilcox ss, Ordo.	F 463; ¼"		Ant.; Seis.	Undetermined.
Seminole		Gulf Oil Corp.'s Duley 1, se se se 28-10-7e		1-14-44	3563	3429-3441	Booch ss, Penn.	P 183	40.0	Ant.; Sub., Seis.	Small.
		NORTH TEXAS—New Oil Field									
Cooke		Sinclair-Prairie Oil Co.'s W. T. Montgomery 1, 3415 ft snl and 330 ft ewl of Robt. Finley Sur A-389, 1⅔ mi n by w of Walnut Bend field, nearest production, but separated by Ordov. failures.	12- 4-43	1-31-44	5137	5112-5137	Strawn ss, Penn.	F 1212; 1½"	40.8	Geol.	Single well reserve 200,000-240,000 bbls. Good saturation in first 19 ft sand, then broken pay to bottom. Possibly involves steep structure. Big prices paid for leases to w in Okla.
		NORTH TEXAS—New Oil Pay									
Young	Padgitt	Shell's S. L. Scott 1-B, 372 ft nsl, 350 ft ewl of se T&L Co. sec 334, mi e of Miss. prod.	10-10-43	1-15-44	5472	4190-4208	Bend li., Penn.	P 71		Ant.; Geol.	Not important; no drlg slated. Well drld Ellenbruger 4918-5472, pbs 4648.
		WEST TEXAS—New Gas Field									
Gaines		Honolulu Oil Corp's E. B. Homann 1, c se se W. T. Ry. 96, blk G, 7 mi ne Seminole fld.	9-11-43	12- 6-43	5457	3475-3490	Yates ss, Perm.	F 4 mlln.	Gas	Ant.; Geol.-Geop.	Comp. as gasser for fuel for more tests to s and se to try for oil in San Andres li, which yielded small amt oil w wtr before pb. Area rated high for oil in San Andres. Yates sand gas lacks economic value due to isolation.
		WEST TEXAS—New Oil Fields									
Hockley	Smyer	Woodley Pet. Co.'s L. A. Harless-Stanclird 1, c nw nw sec 21, blk A, R. M. Thompson Sur, 21 mi ne Slaughter fld, nearest prod.	9- 1-43	1-14-44	6000	5917-5980	Clear Fork li, Perm.	P 161	25.6	Ant.; Geop.	Single well reserve 60,000-80,000 bbls. Well settled to 5 bbls/hr., and more prodctv than 2 Clear Fork 1-well pools to e in Lubbock Co.
Howard	Morita	John B. Hawley Jr.-Northern Ordnance, Inc.'s J. W. Cook 1, c se nw T&P Ry. 23, blk 34, T-1-N, 4⅓ mi n Moore pool.	9- 3-43	1-26-44	3516	3193-3290	San Adres li., Perm.	P 13	25.4	Ant.; Geol.	Not important. Pumped 7 bbls wtr w/13 oil after shot 720 qts at 3193-3290 and acidized 2000 gal.

■ CONTINUED ON PAGE 37

New Oil and Gas Fields and New Pay Horizons Discovered in the United States in January, 1944

• CONTINUED FROM PAGE 36

Pecos	Cwego	Bryace McCandless' Cordova-Union Oil Corp-Gulf 1-101, c se sw H&GN 101, blk 11, 7¼ mi w by n Wentz pool.	9- 4-43	11-21-43	4103 pb 4079	4012-4037	Ellenburger li., Ord.	F 247; ¼"	35.4	Ant.; Geol.-Geop.	Single well reserve 60,000-80,000 bbls. Field likely to be small, on sharp structure influenced by underlying granite mts. Oil pay thickness subnormal for Ellenburger. Shallowest Ordovician prod. in Permian Basin. Well passed up prolific flow gas in Clear Fork lines at 3400 ft.
		UPPER TEXAS GULF COAST—New Oil Fields									
Wharton	El Campo	Seaboard's Duson 1, 160-ac lse, ETRR sur, A-118, 4½ mi nw Danevang.	11-29-43	1- 9-44	6160	6150-6154	Frio ss, Olig.	F 185; ⅛"	35.0	Ant.; Geop., Sub.	May not be large fld, structurally, but may add 1,000,000-2,000,000 bbls to reserves.
		LOWER TEXAS GULF COAST—New Oil Fields									
Bee	W. Cosden	H. B. Zachry Co.'s Brown 1, 620 ft fr sw & 680 ft fr sel 451-ac lse, T. J. Butler sur, w Cosden fld.	12- 5-43	1- 2-44	3649	3639-3645	Claiborne	F 38; ⅛"	43.7	Ant., Geop., Sub.	May add 100,000-250,000 bbls to reserves. Prod. shallow, more drlg likely.
Jackson	LaSalle	Seaport Oil Co.'s Bennett 1, 467 ft fr ne&nwl of 79-ac blk 30, J. M. Bennett Ranch, R. Musquez gr, 1 mi nw West Ranch fld.	10-15-43	1- 1-44	5785	5580-5584 5063-5067	Frio ss, Olig. Marginulina ss, Olig.	F; open F. 48; 3/64"	Gas-Cond. 24.6	Prob. nosing; Sub.	May add 150,000-200,000 bbls to reserves, but not regarded as very important. Dual completion.
Jim Wells	Canales	Sun's Canales 1, 3500 ft fr el & 660 ft fr sl CCSD&RGNG sur 343 3 mi se Seeligson field.	10-20-43	1- 5-44	7237	7233-7236	Frio ss, Olig.	F 174; 3/32"	39.1	Fltd Ant.; Geop., Sub.	Promises to be large fld. May add 5,000,000 bbls or more to reserves.
Live Oak	Chapa	Continental's Somerset Ld & Cattle 1, 330 ft fr nwl & 3080 ft fr nel TTRR sur 319, 8887-ac lse, 7 mi ne Clegg.	9-25-43	1-15-44	8547	8144-8193	Wilcox ss, Eoc.	F 68; ¼"	42.5	Ant., Sub., Geop.	Proves Wilcox prodctv in area.
		LOWER TEXAS GULF COAST—New Oil Pay									
Refugio	Rooke	Hewit & Dougherty's Rooke 7-A, 662 ft fr el & 662 ft fr wl 287-ac lse, blk 28, La Rosa Rch, JM & JM Aldrete Gr.	10-30-43	1- 1-44	7145	6269-6273	Frio ss, Olig.	F 155; 3/16"	40.5	Fltd Ant.; Sub.	Dual comp. May add 750,000-1,000,000 bbls. to reserves.
		LOWER TEXAS GULF COAST—New Gas-Distillate Field									
Bee	Ray-Wilcox	H. B. Zachry Co.'s Campbell 1, 1550 ft fr sl & 2100 ft fr el Brooks & Burleson sur 1, n edge shallow Ray field.	10-19-43	1- 1-44	7787	7581-7596	Wilcox ss, Eoc.	F 20 Cond., 14 miln.; open	Gas-Dist.	Ant.; Sub., Geop.	Pressures: Cas. 2345, tub. 2430. Opens another Wilcox producing area.
		LOWER TEXAS GULF COAST—Gas-Distillate Fld Extension								Dome Flnk; Sub. Flnk Drlg.	Field constantly expanding, and this 5000-ft se extnsn may add considerably to reserves, although no oil proved.
Nueces	Agua Dulce	Simmonds & Perry's Fee 1-B, 467 ft fr nl & 800 ft fr el sec 1, Simmonds & Perry subdvn, 5600-ac lse, Puenticitas Gr.	9-11-43	1- 1-44	7368	7260-7277	Lower Frio ss, Olig.	F			
		LOWER TEXAS GULF COAST—New Distillate Pay									
Jackson	Mayo	Louis Crouch's Stoner 2, 500 ft fr s&el 81-ac lse, W. H. Robertson sur	10-24-43	1- 2-44	5536	5512-5516	Lower Frio ss, Olig.	F; ⅛"	Gas-Dist.	Ter.; Sub., Drlg.	Does not add much to reserves yet. Workg prss. on cas 2150.
		LOWER TEXAS GULF COAST—New Gas Pay									
Bee	Blanconia	Sun's Tuttle 1, 467 ft fr s&el 500-ac lse, J. M. Keating sur.	12 -4-43	1- 1-44	5095	4089-4105	Frio ss, Olig.	F ½ miln; ⅛"	Gas	Fltd Ant.; Edge Drlg.	Sand conditions not exceptionally good; cannot be expected to add much to reserves.
		SOUTHWEST TEXAS—Oil Field Extension									
Starr	N. Rincon	Sun's D. D. Oil Co. 2-B, 467 ft fr nl & 1467 ft fr el 294-ac lse, BS&F sur 77.	12- 1-43	1-10-44	5853	4370-4375	Frio ss, Olig.	F 146; ⅛"	45.7	Ant.; Sub., Geop.	Extension and new pay; may add over 1,000,000 bbls to reserves.

[1] Character of producing formation abbreviated thus: Li, limestone; ss, sandstone; sh, shale; ch, chalk; ser, serpentine; cgl, conglomerate. Ages of producing formations abbreviated as follows: Mio, Miocene; Olig, Oligocene; Plio, Pliocene; Eoc, Eocene; U. Cret, Upper Cretaceous; L. Cret, Lower Cretaceous; Jur, Jurassic, Tri, Triassic, Perm, Permian; Penn, Pennsylvanian; U. Miss, Upper Mississippian; L. Miss, Lower Mississippian; Miss, Mississippian; Dev, Devonian, Sil, Silurian, Ord, Ordovician; Cam, Cambrian.

[2] Barrels of oil per day (24 hr. rate), flowing (F), pumping (P), swabbing (Sw), or bailing (B); or millions of cubic feet of gas daily, open flow capacity; size of choke given in inches.

[3] Type structure abbreviated as follows: Ant, Anticline; Dome; Fold, Folded; Fltd, Faulted; Mono, Monocline; Nose; S. D., Salt Dome; Syn, Syncline; Ter, Terrace. Sub, Subsurface; Sur, Surface Geology.

[4] Method of discovery abbreviated as follows: C. D., Core Drilling; Dr, Drilling; Geol, Geology; Geop, Geophysics; Grav. met., Gravity Meter; Seis, Seismograph;

January Wildcats

• CONTINUED FROM PAGE 34

this year were even more conspicuously unfavorable. In January, 1942, 21 percent of all tests were productive and only 79 percent dry.

In spite of the fact that total exploratory drilling of January, 1944, was 24 percent greater than that of January, 1943, and 30 percent greater than in January, 1942, total discoveries, including 37 new fields and new pay horizons, were exactly the same as a year ago and down 30 percent from two years ago, while extensions of established fields were fewer than either one year ago or two years ago. The unfavorable results of current wildcatting apply to discoveries of distillate and gas as well as oil. Conversely, the ratio of dry holes is running extremely high, 284 tests having been abandoned as unproductive in January, 1944, compared with 214 in January last year and 197 in January two years ago. These comparisons are set forth in more detail in an accompanying table.

Strikes Not Important

Among the discoveries of January, 1944, there were none standing out as exceptionally important. The best showings by districts were those of the Lower Texas Gulf Coast and the Illinois-Indiana-Kentucky region, but even in those areas results were not especially gratifying. Arkansas, California, Louisiana, Kansas, Oklahoma, and Michigan had only poor or mediocre rewards for the wildcatting carried out, and poor showings were made in the interior districts of Texas, and in the Southeastern and Rocky Mountain states.

Arkansas prospecting brought no new fields, but a well 2 miles northwest of the Schuler field was completed for gas and condensate in Reynolds lime at 7861-7863 feet. The well is to be further tested to determine its true status, for if classified as a gas well, drilling would be limited under PAW regulations. It flowed 75 barrels of 44 gravity oil and 7½ barrels of water daily, through 8 perforations, and gas-oil ratio was over 10,000/1.

January wildcatting netted California only one new gas field and several oil field extensions of minor importance. The gas discovery was made in the Chico Creek area of Butte County in Richfield Oil Corporation's Chico 1, C NE NE 17-21-1. Production at the rate of 13,000,000 cubic feet daily was obtained from the interval of 4265-4390 feet. Wildcatting in the state continues at a strong pace, but many of the important tests among projects currently drilling are deep and are making slow progress. Of the 50 drilling wildcats

at the end of January 10, were at depths between 8300 and 11,000 feet.

One New Spot in Illinois

Illinois gained 1 new oil field and new producing horizons for 5 fields during January. However, some of these new pays probably will be of only minor importance, as the same formations were found unproductive in other wells of the fields involved. The new field is North Mt. Erie, Wayne County, 2½ miles north of Mt. Erie, producing oil from Aux Vases sandstone at 3107-3115 feet. After being shot with 30 quarts at that level, the discovery well pumped 47 barrels oil per day. There is considerable room for expansion of the productive area, as nearest wells are dry holes 1½ miles southeast and 3 miles north, but structural conditions are not yet known.

Indiana prospecting resulted in discovery of two new oil fields in Posey County: South New Harmony and Upton. The South New Harmony discovery was 1¼ miles southeast of New Harmony pool production and 2¼ miles southwest of the town of New Harmony. The discovery well pumped 298 barrels of oil and 15 barrels of water per day from Hardinsburg sandstone, Chester-Mississippian, at 2444-2469 feet. The Upton discovery is 4 miles west of Mt. Vernon pool and 6 miles west of Mt. Vernon townsite. The discovery well first flowed but later pumped 115 barrels of oil from Tar Springs sandstone at 2143-2150 feet.

Summary of Results of Exploratory Drilling

	JANUARY		
	1942	1943	1944
Oil Discoveries	46	32	30
New Fields	25	14	20
New Pays	21	18	10
Distillate Discoveries	....	....	3
New Fields	....	....	2
New Pays	....	....	1
Gas Discoveries	6	5	4
New Fields	5	5	3
New Pays	1	....	1
Total Discoveries	52	37	37
Extensions to Fields	*	10	3
Oil Fields	*	9	1
Distillate Fields	*	....	2
Gas Fields	*	1	....
Total Productive Tests	*52	47	40
Dry Holes	197	214	284
Wildcats	197	207	283
Outposts	*	7	1
Total Exploratory Tests	249	261	324
Percent Productive	20.9	18.0	12.3
Percent Dry	79.1	82.0	87.7

* Data on outpost tests not available for 1942.

Kentucky gained 1 new oil field of shallow depth in Butler County and new pays in the Raleigh field, Union County, and Smith-Mills pool, Henderson County.

Kansas recorded two oil discoveries, but neither appeared very important. One is in Rice County, where the discovery well pumped 112 barrels of 39.5-gravity oil and 61 barrels of water daily from Misener sand at 3179-3187 feet. The other was a Saline County strike, pumping 413 barrels of 35-gravity oil and a trace of water from Viola lime at 3363-3368 feet.

Louisiana Area Extended

In North Louisiana the Holly Ridge field, Tensas Parish, was at the same time extended 2 miles northwest and given a new, shallower pay when an outpost test flowed 120 barrels of oil daily through ¼-inch choke from Wilcox sand at 3012-3024 feet, after drilling to 8025 feet and testing dry in the Tuscaloosa. Importance of the strike is dimmed, however, by the fact that a later test to the south was abandoned after failure in the Wilcox. More drilling is expected to the east and north. The Cotton Valley field, Webster Parish, also was extended, 3 miles to the northwest, unless the new gas-distillate producer at that point has opened a separate new field. The well flowed 293 barrels of 63.3-gravity oil per day through 16/64-inch choke, gas-oil ratio 13,720/1, with pressures 2650 pounds on casing and 2550 pounds on tubing, from Bodcaw sand of Cotton Valley at 8452-8482 feet.

South Louisiana's only discovery was a gas well in Vermilion Parish, productive at 10,660-10,675 feet.

Two in Michigan

Two new oil fields were found in Michigan. One is 1 mile south of Wise pool, Isabella County, with flowing production of 44-gravity oil from Dundee lime at 3690-3699 feet. The other is the Deep River pool, Arenac County, 3½ miles east of Adams pool, where 39-gravity oil flowed from Dundee lime at 2837-2840 feet.

Oklahoma wildcatting opened three new oil fields, located in Logan, Noble, and Seminole Counties. However, all apparently are minor discoveries.

Of interest in North Texas was the Cooke County strike 1⅔ miles northwest of the Walnut Bend pool but separated by an Ordovician failure. This discovery, flowing 1212 barrels of 41-gravity oil per day from 19 feet of Strawn sand and additional broken pay at 5112-5137 feet, may prove important. The Padgitt pool, Young County, was at once extended 1 mile east and given a new pay, the Bend lime, at the 4200-foot level.

West Texas is active in wildcatting, but discoveries of January included only a new gas field in Gaines County and 3 new oil fields apparently of minor importance, located in Hockley, Howard, and Pecos Counties.

The only discovery of the upper Gulf Coast of Texas was a new oil field near El Campo, Wharton County, flowing 35-gravity oil from Frio sand at 6150-6154 feet.

The lower Gulf Coast of Texas led all districts in number of new producing areas opened. Four new oil fields were discovered: West Cosden, Bee County; LaSalle, Jackson County; Canales, Jim Wells County; and Chapa, Live Oak County. The Canales pool, 3 miles southeast of Seeligson pool has indications of becoming a large field. Production is 39-gravity oil from Frio sand at 7233-7236 feet. The three other new oil fields appear to be of lesser importance. In the Rooke field, Refugio County, a new pay, the Frio sand, was established. Other productive exploratory wells of the region included discover wells of new gas-distillate fields in Bee and Nueces Counties, a new distillate pay in Mayo field, Jackson County, and a new gas pay in the Blanconia field, Bee County.

In Southwest Texas, the North Rincon field, Starr County, was provided an extension and a new producing formation when an outpost test flowed 45.7-gravity oil from Frio sand at 4370-4375 feet.

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☆ ☆ ☆ ☆ WASHINGTON ROUNDUP ☆ ☆ ☆ ☆

THE OIL problem, and particularly its foreign aspects, has definitely become the outstanding issue in Washington, with indications that it will continue to hold the spotlight for weeks to come while Senate and House dig deep into the subject.

On both sides of the Capitol exhaustive investigations were sought, in which Petroleum Reserve Corporation's Middle East pipe-line project would be the first subject of study.

Concrete developments of the past week involving oil included:

A Truman committee report demanding a division with the United States of British oil reserves and the adoption by this country of a definite foreign oil policy.

Passage by the House of legislation authorizing a $30,000,000 pilot plant development of methods for the production of motor fuel and other products from coal, oil shale and agricultural and forestry products.

Appointment by the Senate banking and currency committee of a sub-committee to hold hearings on the Disney bill to increase crude oil price ceilings.

First investigation of PRC and other phases of the oil picture will probably be launched in the Senate through a committee representing the foreign affairs, commerce, interstate commerce and public lands committees, but plans are under way in the House for the setting up of a similar investigation by a group representing the committees on public lands, naval affairs, military affairs, interstate and foreign commerce, agriculture and mines and mining.

In both chambers, there was much discussion from the floor of the foreign oil situation and the PRC project, domestic crude oil prices and our dwindling reserves.

One Agency for Responsibilities of Foreign Oil Is Sought

»

Truman Group Asks Great Britain to Share Its Oil Reserves

»

More Production Said Needed in View of Upped Demand

»

Fuel from Coal and Agricultural Products Sought by Bill

»

By B. F. LINZ,
Washington Correspondent

☆ ☆ ☆ ☆

Industry Praised as Truman Group Seeks Formulation of Oil Policy

Immediate consideration of the determination of a petroleum policy for the United States that will take properly into account both the domestic and foreign field, with responsibilities regarding foreign petroleum integrated in one agency, if possible, was urged upon the Senate February 16 by the Truman Committee.

The recommendation was made in a report of the subcommittee which last summer made a tour of world battlefronts, in which, as a result of Petroleum Reserves Corporation's commitment for an Arabian pipe line, it was recommended that the executive agencies keep the appropriate Congressional committees thoroughly acacquainted with developments as they take place.

"A heavy responsibility for consideration and final approval of this nation's petroleum policy rests upon the Congress," it was pointed out.

"In arriving at policy decisions of such magnitude that they will effect our future security for decades to come, both the legislative and executive branches of our government should seek the practical counsel and advice of business men in the oil industry, particularly those with foreign experience," the subcommittee added. "Their enterprise has helped to bring us this close to victory, and their judgments can be considered with profit to the national interest before final decisions are reached."

The report discussed four possible national policies, ruling out continuation of the policy of the past 20 years of limited diplomatic support of private companies, and also full government ownership of any foreign reserves. The most desirable, it was indicated, was a policy of full support for company operations abroad, patterned along that given by the British to their nationals, but it was suggested that certain complexities might make it necessary to consider part government ownership, although objections even to limited participation were pointed out.

Discussing the effect of the war on the United States and world oil supply, the subcommittee outlined our declining statistical position and commented that "if it were decided to increase the price of petroleum and petroleum products, we might reasonably expect to discover some additional reserves."

However, it added, "the depletion of our petroleum resources does not present the possibility of an immediate catastrophe, because fortunately we have, beyond doubt, sufficient petroleum to win this war. Such depletion does, however, present serious problems that require immediate attention and intelligent action in order to assure in the future our national safety and a continuation of our industrial progress."

New scientific discoveries are increasing the importance of oil daily, it was emphasized, but at the same time it is reasonable to expect that new methods will be evolved for the exploration, exploitation and development of petroleum which "will make available to us large quantities of petroleum, the location of which is not known at present, just as in the past the development of such new methods made available the Texas and Louisiana Gulf Coast oil fields.

"However," the subcommittee admitted, "this is an expectation and not a certainty."

Expressing pride that the United States has been able to supply the immense quantities of oil needed for all-out war, the report showed that this country has provided upward of 85 percent of the aviation gasoline used by the United Nations and is currently producing about 70 percent of all the oil used by the allies, the rest of the Western Hemisphere contributing about 15 percent, Russia about 9 percent and the Middle and Near East 6 percent. Total world production last year was estimated at 2,275,000,000 barrels, of which 1,500,000,000 were produced in this country. While Shell Union and Transport Company, controlled by the Royal Dutch-Shell combine, accounted for approximately 50,000,000 barrels of the United States production, companies controlled by United States nationals outside the continental limits of the country produced approximately 161,667,000 barrels.

"This great disparity between our oil contribution and that of our allies has been due primarily to the fact that we, and we alone, had the enormous production facilities, manpower, and engineering talent that were required to construct new refining and transportation facilities and to refine the petroleum and transport the petroleum products to the combat areas," the subcommittee explained.

But, it added, "the foregoing analysis indicates the importance to the United States of assuring access to some of the petroleum resources in the Eastern Hemisphere. Even if large new sources of supply should be discovered within the United States, it is probable that the cost of obtaining domestic and South American petroleum at some point will exceed the cost of producing and shipping petroleum from vast pools in the Middle East."

The acquisition of foreign oil rights has become affected with a strong national interest, it was declared, and if secured would be a determining factor in preventing future wars, "for aggres-

sive nations will hesitate to attack us if they know that we have the petroleum, as well as the other weapons, with which to defend ourselves.

"It is therefore necessary for the United States to evolve a detailed policy for the exploration and development of foreign oil resources."

Four possible approaches to this problem were visualized by the subcommittee, outlined in the report as follows:

The government may continue the policy which has prevailed for at least the last two decades of leaving private American companies interested in foreign oil fields free to take whatever action they may determine upon with government assistance limited to that available through normal diplomatic channels, but with other countries conscious of the critical importance of oil to their national security, this course would be apt to result in difficulty for the American companies.

The concessions and interests secured since the last war in Saudi Arabia, Bahren, Kuwait, Iraq, Sumatra and Venezuela, it was commented, "may well represent petroleum reserves equal to the petroleum reserves in the continental United States and may be of profound significance in considering the petroleum policy."

The second possible approach would be by full diplomatic backing for American enterprise in exploring and developing foreign reserves, involving a recognition of our government of the vital concern of our country in foreign reserves because of their relation to our security and economic welfare.

"This would mean the same sort of vigorous support that is accorded by certain other governments to their nationals abroad in cases where their national interest, as distinct from the private interest of citizens, is vitally involved," it was pointed out. "Such a course retains the full advantage of private initiative while at the same time according protection and encouragement flowing from the recognition of the national interest involved.

"The treatment of American claims in certain foreign oil reserves in the Middle East and elsewhere would present hazards to our position with respect to the oil concessions there."

The third and fourth alternatives are for the government to participate in the ownership of the concessions or to take over sole ownership of certain foreign oil reserves. "The latter possibility can immediately be ruled out," the subcommittee observed. "If there had been no incentive for private initiative, our concessions at Bahrein Island and in Saudi Arabia would never have been obtained. Complete government ownership of foreign oil concessions would presuppose a radical change in our economic system.

"Objections have also been advanced to partial government ownership," the subcommittee continued. "It might discourage private enterprise and there are inherent difficulties in placing the government in partnership with large private financial interests. Government control is always subject to possible political influences and has never been considered desirable except where private ownership has completely failed to do the job. On the other hand, obtaining proper oil resources is so vital to the national security and the economic complications of attempting to regulate oil production both at home and in far distant fields may present such difficulties that in the final analysis government participation in ownership may need to be given serious consideration. Certain foreign countries containig very large reserves of petroleum forbid ownership or operation of oil properties by government corporations. This must be taken into account in the determination of policy. American oil companies also in most instances view with some concern the entry of the government into the oil business."

The problems of ownership and control will become even more complex in connection with any oil reserves or interests in reserves which we may acquire through diplomatic action as reverse lend-lease or otherwise, the report forecast.

The unfortunate failure fully to utilize the period since the last war to obtain reserves outside the country has contributed to our present situation, the subcommittee commented, and now that our domestic resources are being depleted in order to provide oil for war it is necessary to give immediate attention to the matter. We have supplied the bulk of the oil needed for the war, at the cost of our postwar economic position.

"For that reason," it was declared, "it would seem fair to ask our Allies, particularly Great Britain, to recompense the United States for this excessive depletion by transfer to us of a compensating volume of proven reserves outside this country.

"However, even more important is an agreement with our allies on the equitable allocation of world reserves of petroleum which will be discovered and proven in the future, plus the formulation of a positive, vigorous American policy on the whole subject.

"Oil resources to be obtained from the British or to be developed in the future by whatever means is determined upon will raise still another question. It will be necessary to determine whether they should be held as re-

Petroleum Reserves of Principal Producing Countries

Included in the Truman report were PAW figures showing world oil reserves, with the comment that it is impossible to obtain accurate estimates with respect to the size of many of the new pools. Such estimates often vary widely, as in the case of Saudi Arabia where they run from 2½ to upward of 20 billion barrels, with most experts placing it between 2½ and 3 billion barrels. PAW estimates showed total world reserves of 50,701,800,000 barrels, as follows:

	Barrels	Ownership in Nationals of[1]
North America		
United States:		
District 1	254,700,000	
District 2	2,130,401,000	
District 3	14,006,273,000	
District 4	495,573,000	
District 5	3,195,846,000	
Total	20,082,793,000	United States.
Canada	150,000,000	Canada, United States.
Mexico	600,000,000	Mexico.
Total North America	20,832,793,000	
South America		
Venezuela	5,600,000,000	United States, Great Britain.
Colombia	503,000,000	United States.
Peru	135,000,000	United States, British, Peru.
Ecuador	45,000,000	British.
Argentina	168,000,000	Argentina, British, United States.
Bolivia	45,400,000	Bolivia.
Brazil	1,000,000	Brazil.
Trinidad	239,600,000	British.
Total South America	6,734,000,000	
Europe		
Germany (including Austria)	68,700,000	Germany, United States.
France	11,000,000	France.
Italy	1,000,000	United States, Italy.
Albania	41,000,000	Italy.
Poland	30,000,000	Diverse European interests, United States.
Rumania	392,000,000	Great Britain, United States, France.
Hungary	75,000,000	United States, Germany, Hungary.
Czechoslovakia	1,200,000	Czechoslovakia.
U. S. S. R.	5,735,000,000	U. S. S. R.
Total Europe	6,354,900,000	
Asia		
Iran	5,000,000,000	Great Britain.
Iraq	4,000,000,000	United States, Great Britain, France.
Kuwait	4,000,000,000	United States, Great Britain.
Saudi Arabia, Bahrein	2,000,000,000	United States.
Qatar	500,000,000	United States, Great Britain, France.
	15,500,000,000	
India and Burma	167,400,000	Great Britain.
Japan	36,000,000	Japan.
Netherland East Indies	950,000,000	Great Britain, United States, Netherlands.
Total Asia	16,653,400,000	
Africa		
Egypt	86,000,000	Great Britain.
Other Countries	41,500,000	
Total World	50,701,800,000	

[1] This column shows prewar ownership. Naturally these lines of title have been cut in Axis-controlled countries in time of war. Generally speaking, only owners of substantial portions of the respective fields are given.

serves against future use in wartime or whether they should be exploited now so that our domestic resources may be conserved. If the latter, it will be necessary to determine questions of tariff and proration of oil in the United States."

Naming the many domestic agencies which now have an interest in foreign oil, the subcommittee said also that, in traveling through the Middle East, it was impressed with "the lack of coordinated and sufficiently responsible diplomatic and economic representation.

"This diffusion of administrative authority is our present means of approach to as delicate and complex a diplomatic and economic situation as can be found in the world," it observed.

Due to its representations, the State Department sent James M. Landis to the Middle East to go into the situation, but his authority was so limited that he found it necessary to return to this country to clarify some of its aspects.

Urging integration of authority, the subcommittee also suggested that "before any person is cloaked with overall authority and before any policy is determined, a program should be presented to the Congress.

"The action which has been taken to date was necessarily temporary and will remain temporary until such time as a permanent petroleum policy is determined by the Congress," it pointed out.

Appropriation Approved For Oil Policy Direction

Reorganization of the State Department, involving the strengthening of its policies with respect to the foreign operations of American oil companies (THE OIL WEEKLY, Jan. 24), will increase operating expenses by approximately $500,000 a year, it was disclosed February 16 by the House Appropriations Committee in reporting the department's $44,234,500 supply bill for the coming fiscal year.

Close contact is maintained between Charles B. Ravner, adviser to the department on petroleum policy, and officials of PAW, the committee was told during its hearings on the bill. However, it was emphasized by G. Howland Shaw, Assistant Secretary of State, that it would not be practicable to depend upon PAW for all advice and representation both at home and abroad, particularly abroad.

Should any oil problems arise in any particular area, the department explained, PAW could ask that an oil expert be attached to that office and could designate the man, thus assuring coordination and providing for economy.

Oil Industry's Drive Helps Rubber Shortage

The scrap rubber collected by the oil industry's drive is being used at a rate of 35,000 tons per month and has proved to be one of the most important factors in tiding the country over the rubber shortage, it was reported last week by Rubber Director Bradley Dewey.

Dewey explained that more than 75 percent of the material turned in has been usable. The remainder included scrap which could be reclaimed only in part or none at all, the former including some types of floor mats which contained about 50 percent low-grade reclaimed rubber and a similar proportion of non-rubber materials.

Synthetic Fuel Research Authorized by House

With little opposition, the House on February 16 passed legislation authorizing the Interior Department to undertake a $30,000,000 research program in the production of gasoline from coal, oil shale and agricultural and forestry products.

The House approved the legislation by a vote of 140 to 113 after defeating efforts to reduce the expenditure to $5,000,000. Although originally contemplated to cover only hydrogenation of coal, amendments were accepted providing for the construction of one or more demonstration plants to produce fuel from oil shale and agricultural and forestry products, and another which would limit the discretion of the Secretary of the Interior and make the development of the project subject to the approval of congress.

In a letter to Representative Jennings Randolph of West Virginia, author of the bill, Administrator Ickes disclosed that the RAF is using British-made synthetic fuel in part, and the German and Japanese air forces also use synthetics.

"It is a matter of chagrin to Americans that we do not already have synthetic gasolines, although, fortunately, the dwindling natural petroleum with which this country was blessed has, through heroic measures of American industry, kept our air forces in the sky, our fleet on the seven seas, and our armies on all continents," Ickes said.

"It is not given to me to know how long this war will last, but I believe we will have enough natural petroleum to finish it. I do not believe we will have enough for another war, and all who study the question think that we will come out of the war to peace with a shortage of domestic natural petroleum.

"We need synthetic liquid fuels now, but we have not got them."

The house bill differs in important respects from legislation passed by the Senate last November on the same subject, but it is expected no difficulty will arise in reaching an agreement between the two chambers.

At the Interior Department, officials said they were prepared to begin their planning for the synthetic-fuel experiment immediately.

This resolution was amended February 16 to provide for an eight-man investigation, with two members, each from the three committees originally named, plus two from the public lands committee. Senator Joseph C. O'Mahoney of Wyoming, a member of the public lands committee who has made a number of oil investigations, was reported under discussion to be chairman of the group.

In the House, where earlier Representative Edith Nourse Rogers of Massachusetts introduced a resolution calling for an investigation of the PRC pipe line project, Congressman Jerry Voorhis of California introduced a measure February 16 for a thorough probe of the whole oil situation.

Voorhis' investigation would be conducted, like the Senate inquiry, by a committee from the various house committees interested in oil and would be instructed to study the extent of reserves in the United States and its possessions; the extent of holdings of various companies of those reserves, with particular reference to the degree to which they are owned by major integrated companies; the extent to which monopolistic practices exist in the oil industry; the policies pursued by the major companies with regard to control over production, handling of reserves, management of pipe lines under their ownership, and distribution and marketing; the relationship of various groups within the industry and federal and local governments; the extent of reserves underlying the public domain; and potential sources of oil outside the continental United States, including recommendations as to governmental policies to be pursued.

General Oil Query Shades PRC Probe

Hearings on the Brewster-Moore resolution for liquidation of Petroleum Reserves Corporation, scheduled for February 15 after having been postponed twice, were called off last week following agreement on a plan to have PRC studied in connection with an all-out investigation of the oil situation by a three-committee group provided for in another resolution offered by the two Senators (THE OIL WEEKLY, February 14).

The anti-Administration subcommittee set up to handle the PRC resolution is expected to take no further part in the situation unless, following the general investigation, it is decided to press for dissolution of the agency.

The second resolution sponsored by Senators Brewster of Maine and Moore of Oklahoma calls for a study of resources, production and consumption both in the United States and throughout the world generally, to be made by a committee of three members, each, from the Senate committees on Foreign Affairs, Commerce, and Interstate Commerce.

First Head of Gasoline Due This Week in Linden

Approximately 100 splits occurred in the Little-Big-Inch line under testing, it was reported last week by PAW as the test neared completion and the first head of gasoline moved past Norris City and into the eastern leg, scheduled to reach Linden, N. J., about February 25.

On the western leg, all alternate pump stations are available for service and the even-numbered stations are scheduled for completion by March 15, provided materials are received on time. On the eastern leg, all alternate pump stations are ready for use, and operations are under way for the replacement of an 11-mile section near Chambersburg, Pennsylvania.

The Big-Inch line continues to operate at a high level, 309,902 barrels daily moving from Longview to Norris City during the week ended February 4, with 292,083 barrels moving on to the East Coast.

The products line from East Chicago to Toledo has been completed and is

being filled with fuel oil, with all seven pump stations ready to operate.

About half of the pipe has been laid on the Stanolind Pipeline Company's line from West Texas to Drumright, Oklahoma, and the feeder line between Magnolia Pipeline Company's Mallett and Stanolind's Slaughter stations and the connection from Humble Pipeline Company at Wasson station to the existing Magnolia line between Mallett and Seminole have been completed.

Restrictions Tightened on East Coast Heating Oil

Heating oil supplies on the East Coast have become so critical that PAW last week prohibited deliveries to any consumers other than householders if they had in their tanks as much as a 10-day supply, and advised the OPA that inventories would not be adequate to permit advancing the valid date of period 5 coupons.

"Shortages threatened civilian petroleum supplies in several areas of the East Coast last week," Deputy Administrator Davies said, "but were successfully averted by emergency measures. For the next six weeks that will probably continue to be the story—threats of shortages, or actual brief and local shortages, which we will meet by every means at our disposal."

Tank car shipments during the week ended February 12 rose to 727,904 barrels daily from 685,849 barrels during the previous week, but still below the hoped-for level. Drum shipments of kerosine to New England increased to 6761 barrels daily. Big-Inch pipe line maintained a rate of 303,000 barrels daily through the first two weeks of the month.

The head end of the Little-Big-Inch line is moving through Pennsylvania at the rate of about 100,000 barrels a day and well over 2,000,000 barrels have been put into the line. The first of the gasoline and heating oil in the line is expected to reach the eastern terminus before the end of this month. More than 88,000,000 barrels of oil moved through the Big-Inch line last year, it was announced by Ickes February 19, equal to the total which could be hauled by 18,000 tank cars operating in the Gulf-East Coast service on a seven-day week with no layovers.

Lend-Lease Funds Seen For Oil Work in Mexico

Plans for expansion of the Mexican oil industry with United States assistance have been perfected by the State Department and the Export-Import Bank, with the latter to make an advance for refinery expansion, pipe-line construction and repressuring of the Posa Rica field, it was reported last week.

Representatives of the Mexican government have been in Washington at intervals over a period of several months in attempts to work out the lend-lease deal which will enable an increase in Mexico's contribution to war oil needs, and some time ago arrangements were made for the financing of a refinery to cost in excess of $20,000,000.

The funds advanced by the Export-Import Bank will be used primarily to pay for material to be manufactured in this country for the various parts of the project.

Early Hearing Sought on Disney Bill; IPA Asks Bowles for Details of Plan

Disposition by the Senate of several pieces of controversial legislation which have been occupying it since it convened last month—the tax bill, subsidies and the soldier vote—may leave the way open for hearings on the Disney bill looking toward an increase in the price of oil.

Requests for early hearings have been made to the Senate Banking and Currency Committee by a number of Senators, including Connally of Texas and Thomas of Oklahoma, the latter sponsor of a similar measure on which no action ever has been taken.

The question of crude-oil prices has taken on added importance since announcement of the government's plan to build a pipe line in the Middle East, which precipitated charges that the Administration has been engaged in a long campaign to bring about an artificial domestic shortage, through the denial of material for wildcatting and depression of prices, to justify its entry into the oil industry.

That project, it was charged by Russell B. Brown, general counsel of the Independent Petroleum Association of America, offers "the first plausible explanation for the refusal to make material available and to permit a fair price to domestic producers."

In anticipation of full hearings on the Disney bill, Chairman Robert F. Wagner of the Banking and Currency Committee named a subcommittee to handle the measure, with himself as chairman and with Senators Francis Maloney of Connecticut, George L. Radcliffe of Maryland, D. Worth Clark of Idaho and John L. McClellan of Arkansas, Democrats, and Charles W. Tobey of New Hampshire, John A. Danaher of Connecticut and Robert A. Taft of Ohio, Republicans, as members.

Meanwhile, it was disclosed that the Independent Petroleum Association has called on Price Administrator Chester Bowles for a showdown on his demand that the industry's dilemma be solved by incentive payments rather than a general crude price increase.

In a letter to the Administrator on January 26, so far unacknowledged, Russell B. Brown, general counsel for the IPA, asked for specific information on various phases of the problem, as follows:

1. Does your office consider that it possesses the legal authority to put into effect an incentive plan?

2. Are the funds now available, without further exercise of the appropriating power of Congress, to support whatever plan may be decided upon or likely to be formulated?

3. Has your office arrived at an estimate of the amount of money which would be required for the several forms of stimulus to the oil supply of the nation? If so, will you state at this time what such estimate is?

4. As all expressions which have come to me to date on this question, including that of the Petroleum Administrator, agree that an incentives plan for the oil producing industry would be one of the greatest of administrative tasks yet undertaken, will you now state whether your office is prepared to undertake such administration? If not your office, can you suggest which department might be the appropriate one?

5. Assuming that all answers to the foregoing have been arrived at satisfactorily to your office, can you now give an estimate of the date when an incentives plan that would meet the needs would be put into effect?

"Our plan—a general increase in the price of crude oil—has been rejected by your office," Brown concluded. "We now believe that, our plan having been rejected, it is only fair that we have an explanation of your plan, specific in nature, so that the oil producers who would have to attempt to fit their operations to your plan may know what it is that is being arranged for them."

War Governing Factor in Big Demand for Quarter

First-quarter demand for motor fuel will be 25 percent higher than in the corresponding period last year, with an 18 percent increase in crude runs to stills and a 16 percent greater demand for domestic crude, it was forecast last week by the Bureau of Mines.

These increases primarily reflect the increase in war requirements, the bureau explained, but also are due in part to an abnormal combination of restrictive factors in the early part of 1943.

The bureau forecast that market demand for the current month will require a daily average supply of 4,372,400 barrels of domestic crude, or 584,900 barrels, or 15 percent, more than the demand in February, 1943.

A year ago, it was pointed out, production and refinery operations were limited by readjustments in transportation facilities, imports were at a low level, and general rationing of civilian gasoline and heating oils was in effect, while military requirements were small compared with the tremendous increases that have since taken place.

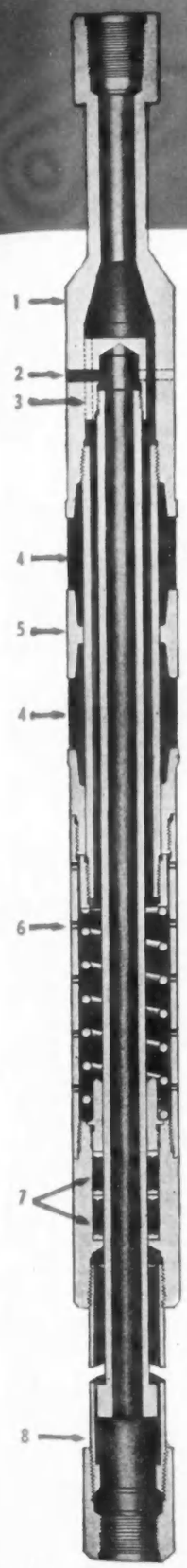
During December's four full weeks, the bureau reported, crude production averaged 4,365,000 barrels daily and total runs to stills 4,232,000 barrels, while stocks of domestic crude declined at a rate of 18,000 barrels daily, indicating a demand for domestic crude of 4,383,000 barrels a day.

"The domestic production of crude petroleum of 4,455,000 barrels daily in November set an all-time monthly record," it was stated. "Current figures indicate a substantial decline below this level for both December and January. Total crude runs to stills also set a new record of 4,216,000 barrels daily in November that will probably exceeded in both December and January. Unless crude production can be increased, the upward trend in runs will involve either withdrawals from crude stocks or further gains in the amount of foreign crude refined.

"The total demand for motor fuel in November was only about 2 percent greater than the abnormally high de-

CAMERON PACKERS

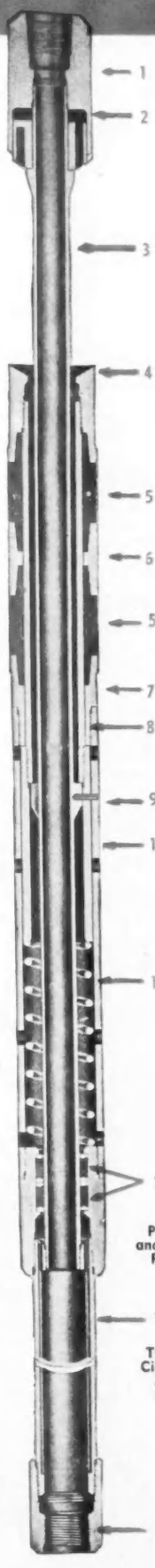
The Industry's No. 1 Choice for DUAL COMPLETIONS



Type "J" Cross-Over Packer

Type "G" Packer—(1) Valve Cage, (2) Valve Packer, (3) Flow Pipe, (4) Valve Seat, (5) Packers, (6) Packer Spacer, (7) Packer Retainer, (8) Mandrel, (9) Shear Pin, (10) Lower Sleeve, (11) Spring, (12) Seal Rings, (13) Drive Nipple, (14) Reducing Coupling.

Type "J" Packer—(1) Cross-Over Head, (2) Cross-Over Ports, (3) Upper Sand Production Ports, (4) Packers, (5) Packer Spacer, (6) Upper Sand Inlets, (7) Packing Rings, (8) Drive Nipple.



Patented and Patents Pending

Type "G" Circulating Anchor Packer

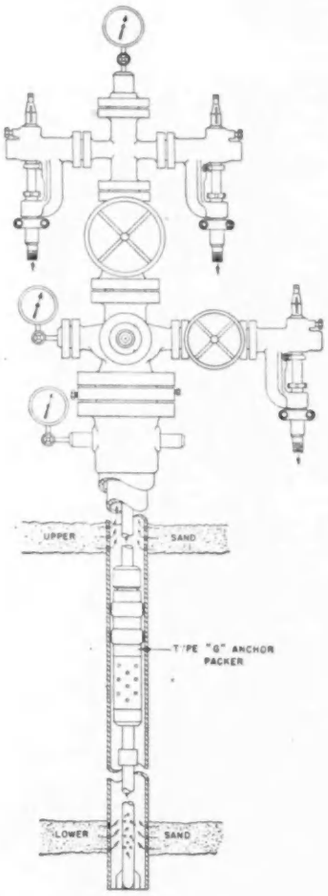


Figure 1

Figure 1 illustrates the use of a Cameron Type "G" Circulating Anchor Packer to separate producing zones in a normal dual completion.

Figure 2 illustrates the use of a Cameron Type "G" Circulating Anchor Packer in conjunction with a Type "J" Cross-over Packer to produce the upper sand through the tubing and the lower sand through the oil string.

Cameron surface control equipment assembled on Ram Type Tubing Control Heads, which is also widely used for dual completion work, is illustrated in the above drawings.

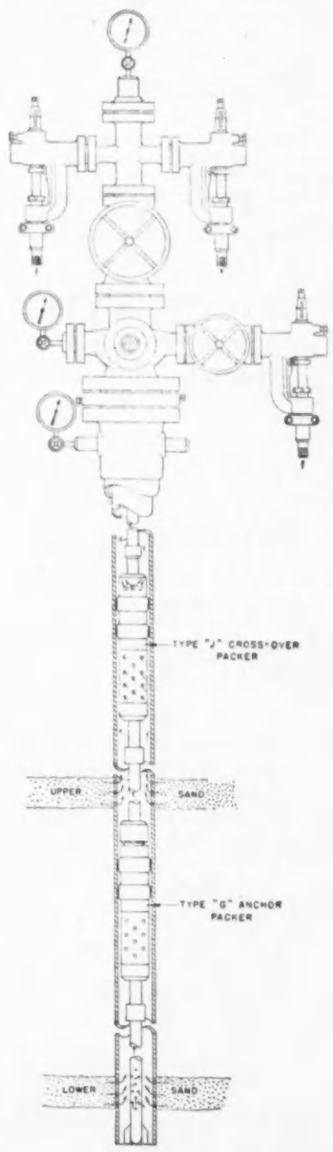


Figure 2

Obviously, the key to successful dual completions is a positive sealing packer to separate the producing zones. Cameron Type "G" Circulating Anchor Packers with patented SELF-FEEDING resilient sealing element equipped valve, assure a pressure-tight seal even though the seat may have been substantially cut during washing operations. They are set by simply lowering the tubing string until approximately one-half of the weight is on the packer and released by merely picking up on the tubing.

The Type "J" Cross-Over Packer is widely used, in conjunction with the Type "G" Packer, when it is desired to produce an upper sand through the tubing and a lower sand through the oil string, this being the reverse of normal dual completion operations.

See your Composite Catalog for complete details, or descriptive literature will gladly be sent on request.

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mand in November, 1942, but the gain for the last quarter of 1943 will probably be about 10 percent compared with the same period in 1942."

Total demand for motor fuel this month is placed at 49,200,000 barrels, or 22.5 percent daily more than the actual demand for the same month last year, most of the increase being attributable to greater military requirements.

At the close of last year, it is estimated, stocks of finished and unfinished gasoline amounted to 75,300,000 barrels, compared with 80,126,000 barrels at the end of 1942.

The bureau estimated February direct sales of natural gasoline and imports at 2,000,000 barrels, making an indicated refinery production of 52,100,000 barrels, which it distributed among the several districts, as follows:

East Coast, Inland Texas, Texas Gulf Coast, Louisiana Gulf Coast and Inland Louisiana-Arkansas, 24,940,000 barrels; Appalachian, 1,840,000 barrels; Indiana, Illinois, Kentucky, etc., 10,780,000 barrels; Oklahoma 2,470,000 barrels; Kansas, 2,580,000 barrels; Rocky Mountain, 1,520,000 barrels; California, 7,970,000 barrels.

Benzol and natural gasoline to be blended at refineries are estimated at 5,250,000 barrels, and application of the yield, estimated at 38 percent, to the straight-run and cracked gasoline production of 46,850,000 barrels gives total crude runs of 123,300,000 barrels, or 4,251,700 barrels daily.

Crude oil for exports and to be used as fuel and losses, is estimated at 5,900,000 barrels, giving an estimated demand for domestic crude for the month of 126,800,000 barrels, or 4,372,400 barrels daily.

Production Rate Reduced For Second Straight Month

Reducing the production rate for the second straight month, PAW on February 18 announced the certification of a daily output in March of 4,421,300 barrels of crude and 277,600 barrels of natural gasoline and condensate, the total of 4,698,900 barrels being 2500 barrels under that for the current month.

All of the cut and more, however, will be in natural gasoline and condensate, reduced from 282,600 barrels for this month, the crude certification showing an increase of 2500 barrels over the February total.

To achieve this shifting production, rates in Districts 1, 2 and 5 were reduced slightly to conform with declining productive capacities, District 3 was left unchanged and District 4 was raised slightly.

In District 1, the crude rates remain unchanged at 13,400 barrels daily for New York, 41,000 barrels for Pennsylvania and 8800 barrels for West Virginia. But the gasoline and condensate rate is cut from 1800 to 1300 barrels for Pennsylvania and from 7800 to 7000 barrels for West Virginia.

Changes were made in both crude and condensate rates for most of the states in District 2. For crude, the February rate was left unchanged at 215,000 barrels for Illinois, 285,000 for Kansas, 9000 for Ohio and 328,000 for Oklahoma; reduced for Indiana from 14,000 to 13,600 barrels, Kentucky from 25,200 to 24,000 barrels, and Nebraska from 1200 to 1000 barrels, and increased only for Michigan, from 50,000 to 52,000 barrels. The condensate rate was increased for Illinois from 12,600 to 13,000 barrels, Michigan from 200 to 300 barrels, and Ohio from 400 to 600 barrels, and reduced for Kansas from 6100 to 6000 barrels, Kentucky from 2900 to 2800 barrels and Oklahoma from 28,000 to 27,000 barrels.

Three of the five District 3 states received increased crude allowables, Texas going from 1,886,000 to 1,891,000 barrels, New Mexico from 110,700 to 111,700 barrels, and Arkansas from 76,600 to 76,700 barrels, while Louisiana was reduced from 348,700 to 347,700 barrels, and Mississippi was left unchanged at 46,000 barrels. For condensate, the rate for Louisiana was increased from 27,000 to 28,000 barrels, but Arkansas was reduced from 5100 to 5000 barrels, New Mexico from 5900 to 4900 barrels, and Texas from 132,000 to 127,000 barrels.

The crude rate for District 4 was left unchanged for Wyoming at 93,000 barrels and Colorado at 7000 barrels, but Montana was increased from 23,700 to 24,000 barrels. The condensate rate for Montana was left unchanged at 300 barrels, but that for Wyoming was increased from 5800 to 7200 barrels. In District 5, California's crude rate was reduced from 836,500 to 833,400 barrels and its condensate rate increased from 46,700 to 47,200 barrels.

Schedule of Excess Cost For Transportation Fixed

Defense Supplies Corporation last week announced the schedule for payment of excess cost of transporting oil from 13 producing areas into District 1, ranging from 8.3 to 31.5 cents per barrel, effective as of December 1, last.

When the program was first undertaken, it was believed that the average cost would be approximately 17 cents per barrel for moving oil overland from the several fields to tankers but it developed that costs from various areas differed widely and it became necessary to establish a definite schedule.

Field-to-tanker cost to be added to the cost of transportation is fixed as follows: From Texas Panhandle, 31.5 cents per barrel; West Texas and New Mexico, 26 cents; West Central Texas, 29 cents; North Texas, 31.5 cents; East Texas (including East Central), 14.7 cents; Talco area, 26.5 cents; North Louisiana and South Arkansas, including Cass and Marion counties, Tex., 19.6 cents; Tinsley area, Miss., 19.1 cents; Central Louisiana, 15.1 cents; Southwest Texas, 14.1 cents; Texas and Louisiana Gulf Coast, 12.6 cents; Southeast Louisiana, 8.3 cents; Oklahoma, 31.5 cents.

Texas Allowable Set Under February Mark

The Texas Railroad Commission has fixed the March allowable at 2,023,324 barrels daily, approximately 25,000 barrels lower than February production.

The commission fixed a net allowable of 2,025,652 barrels, anticipating underproduction of 6.92 percent, or 140,175 barrels, leaving 1,885,477 barrels of oil allowed. Distillate and natural gasoline was estimated to average 137,847 barrels a day, making a total of 2,023,324 barrels.

The PAW recommendation for Texas was 2,018,000 barrels so that the new allowable fixed by the commission exceeds the PAW recommendation by 5324 barrels a day.

The Panhandle is to produce 23 days and East Texas 23 days. However, this means a reduction in East Texas, which produced 23 days in February also, because of the greater number of days in March. Because it was allowed fewer producing days, the Panhandle will produce only 95,927 barrels instead of 121,751 barrels.

Difficulty in determing the demand for Texas crude was emphasized at the statewide hearing before the commission last week. PAW continues to assign to Texas production totaling 2,018,000 barrels a day. Purchasers, however, tell the commission that they want less and less oil.

While the Washington recommendation has remained the same from November through March, the nominations by purchasers have dropped. For March, nominations totaled 2,046,994 barrels, which was 49,978 barrels less than February.

The biggest drop was in the Gulf Coast where purchasers wanted 24,334 barrels less. In West Texas, the drop was 12,499 barrels, in the East Texas area the decline was 3206 barrels, in Southwest Texas 2929 barrels, in North Texas 6449 barrels, and in the Panhandle 2600 barrels.

The explanation offered by the operators, which went unchallenged by PAW representatievs at the hearing, was that facilities do not exist for handling the quantities of oil which Washington had ordered produced in PAW District 3. Refineries, tank cars, and loading racks are inadequate. As a result, during the past few weeks 136,000 barrels of Texas crude has gone to storage daily.

Speaking for the operators, J. A. Neath, Humble Pipe Line Company, urged the commission to attempt some reconciliation of the demand figures held with those in Washington.

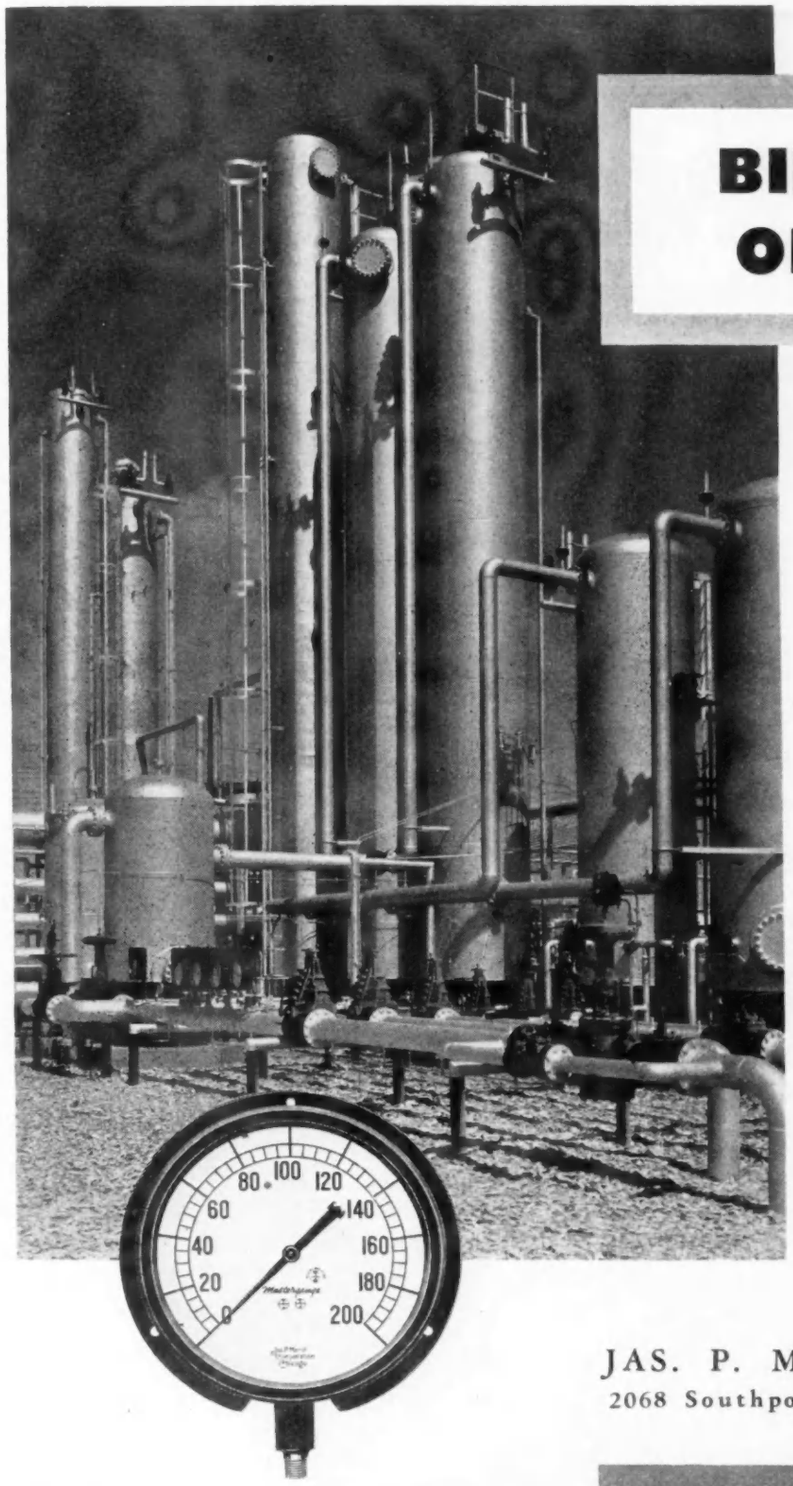
Neath pointed out as an example that Humble Oil & Refining Company had estimated it could process 205,000 barrels daily at its Baytown refinery. Experience has shown, however, only 185,000 barrels can be processed. Plans for some plants called for operations beginning last November, yet those plants will not be completed until April.

At Midland, a 40,000-barrel loading rack was planned and was expected to be operating at capacity two or three months ago. The commission was called on by PAW to supply additional crude. Yet during January this rack could handle only 29,000 barrels of oil a day.

In other places, PAW had ordered production of oil which must be removed by tank car, the oil was allowed, but the cars have not been available.

This was given as the reason for further reductions in the allowable in the Hawkins field where Humble Pipe Line Company was assigned 22,000 barrels a day in February, but has been taking only 15,000 barrels, or 65 percent. A new market is developing for 8000 barrels per day, and the oil can be transported to Baton Rouge by pipe line and then barged up the Mississippi.

A reduction of 10,000 barrels a day at Hastings was asked, because Crown Central Petroleum Corporation does not have its refinery at Houston ready to operate and Pan American Refining Company's plant at Texas City is closed for repairs because it salted up.



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MARSH GAUGES

Production of Major Products Too Low As Crude Runs to Stills Are Reduced

Failure to produce and process enough petroleum was evidenced by latest weekly statistics of the industry, covering the 7 days ended February 12, as compiled by the American Petroleum Institute. Production of crude was down nominally from the week before and runs to stills were down materially, with the result that production of all the major refined products declined, forcing withdrawals of heavy as well as light fuel oils from storage and only a subnormal build-up of gasoline stocks.

In averaging 4,399,000 barrels per day, United States crude oil production was down about 1000 barrels from the week before. That was, however, within 37,000 barrels of the all-time peak, recorded last November, and 528,000 barrels daily or 13.6 percent more than the 3,871,000 barrels daily production in the week ended February 13 last year.

Crude runs to stills averaged 4,228,000 barrels daily during the week, down 96,000 from the week before and 225,000 under the all-time peak that was reached the final week of last year. The runs were, however, 659,000 barrels or 18.5 percent above the daily average of 3,569,000 barrels in the corresponding week a year ago. At the latest rate, the refineries of the country were operating at 87.5 percent of rated capacity.

Production of gasoline was 13,000 barrels a day lower than the week before in totaling 13,101,000 barrels, although 378,000 per day or 25.3 percent higher than in the corresponding week last year. In spite of this enormous year-to-year increase in production, the output was lower than desirable, and during the week there was an accumulation in stocks of finished and unfinished gasoline amounting to only 538,000 barrels, or an average of 77,000 barrels daily. Normally, at this time of the year, much more is added to storage, to take care of sharply higher demand in spring and summer. The stocks of 82,322,000 barrels on hand February 12 were 9,436,000 barrels or 10.3 percent less than the 91,758,000 barrels held on February 13 last year, although demand currently is running materially higher than a year ago.

Production of gasoil and distillate fuel was 27,000 barrels a day lower in the week of February 12 than in the previous week and 19,000 daily or 3.3 percent lower than in the corresponding week last year, although demand is higher than a year ago. In meeting requirements, stocks were drawn upon to the extent of 167,000 barrels per day, a relatively large withdrawal even for this season of large consumption. The inventory was reduced to 34,854,000 barrels, which represented over 2,000,000 barrels or 5.5 percent less than the 36,888,000 barrels held a year previously.

Residual fuel oil production in the week of February 12 was 12,000 barrels a day lower than in the previous week although 187,000 barrels per day or 15.8 percent higher than in the corresponding week a year ago. In order to meet the heavy requirements, it was necessary to continue drawing on already badly depleted storage to the extent of 40,000 barrels daily. Stocks declined to 52,453,000 barrels and then were 18,213,000 barrels or 25.8 percent under the 70,666,000-barrel level at which they stood on the corresponding date a year ago, whereas demand is much higher now than then.

Crude Oil Production in the United States

(Estimates compiled by The OIL WEEKLY. All figures indicate daily averages, in barrels.)

STATE OR DISTRICT	PRODUCTION IN WEEK ENDED February 19	February 12
Arkansas	78,800	78,750
California	824,500	811,250
Long Beach	30,400	30,250
Midway-Sunset	56,000	55,600
Kettleman Hills	43,200	42,400
Wilmington	101,000	100,200
Rest of State	593,900	582,800
Colorado	8,450	8,500
Illinois	211,450	202,800
Salem	25,250	25,450
Louden	31,600	31,000
Other New Pools	142,450	134,150
Old Pools	12,150	12,200
Indiana	14,350	13,300
Kansas	268,050	281,750
Kentucky	22,900	21,750
Louisiana	360,700	361,950
North	77,200	78,750
South	283,500	283,200
Michigan	53,400	51,600
Mississippi	42,600	43,900
Missouri	200	200
Montana	22,500	23,433
Nebraska	1,150	1,100
New Mexico	113,250	113,200
New York	12,500	14,000
Ohio	8,750	8,800
Oklahoma	325,400	327,200
Oklahoma City	47,500	47,700
Seminole Area	70,100	70,600
Rest of State	207,800	208,900
Pennsylvania	40,200	40,400
Tennessee	30	30
Texas	1,909,750	1,909,500
Upper Gulf Coast	516,650	516,500
East Texas Field	390,500	390,500
Rest of Eastern Texas	110,300	110,350
Lower Gulf Coast	193,200	193,000
Southwest Texas	75,250	75,300
South Central Texas	19,950	19,900
West Texas	362,100	362,000
North Texas	139,750	140,000
Panhandle	102,050	101,950
Utah	15	15
West Virginia	8,000	8,350
Wyoming	98,500	98,350
Total United States	4,425,445	4,420,128

Trends of Operations and Changes in Stocks

Figures on crude stocks are from Bureau of Mines weekly reports; all others from American Petroleum Institute weekly reports, which are estimates on Bureau of Mines basis.

(All figures in thousands of barrels—add 000)

HIGHS AND LOWS OF RECENT YEARS

ITEM	Crude Oil Prod. Barrels Daily	Week Ended	Runs to Stills Barrels Daily	Week Ended	Crude Stocks Barrels	Week Ended	Gasoline Stocks Barrels	Week Ended	Gasoil and Distillate Stocks Barrels	Week Ended	Residual Fuel Oil Stocks Barrels	Week Ended
Highs:												
1941	4,337	11-22	4,120	10-18	266,187	3-29	99,727	3-29	[1]54,983	11-15	102,448	1- 4
1942	4,337	2- 7	3,961	1- 3	263,208	3-28	[1]109,281	3-14	49,861	11-14	95,857	1- 3
1943	[1]4,436	11-13	4,331	12- 4	245,752	5-29	94,159	3-20	46,187	11-27	72,881	1- 2
1944	4,409	1-29	[1]4,453	1- 1	240,992	1- 1	82,322	2-12	42,310	1- 1	57,330	1- 1
Lows:												
1939	[3]1,601	8-26	3,125	2-18	[2]229,127	10-12	71,152	10- 7	20,722	4-15	105,397	4- 8
1941	3,364	1-11	3,490	1-18	240,399	11-15	79,923	10- 4	28,381	4-12	90,914	7-12
1942	3,297	7- 4	3,393	5-23	231,896	12-12	75,934	12- 5	29,240	4-25	72,962	12-26
1943	3,821	1- 9	3,579	3-13	232,191	1- 9	68,182	10-16	30,732	4- 3	57,596	12-25
1944	4,357	1- 1	4,228	2-12	238,148	1-15	76,302	1- 1	34,854	12- 2	52,453	2-12

TRENDS OF 1943 AND 1944

Trends in Week Ended:	Crude Oil Production Daily	Runs to Stills Daily	Stocks Week End	Gasoline Production Weekly	Stocks Week End	Gasoil and Distillate Production Weekly	Stocks Week End	Residual Fuel Production Weekly	Stocks Week End
1943:									
January 2	3,871	3,734	233,938	10,957	82,420	4,285	42,913	7,683	72,881
January 30	3,826	3,698	233,863	10,339	88,830	3,888	37,057	7,452	70,763
February 27	3,873	3,709	235,217	10,566	93,157	4,230	32,939	7,839	70,140
March 27	3,896	3,742	239,126	10,231	94,079	3,541	30,980	8,018	67,938
April 24	3,913	3,737	242,035	10,583	91,001	3,954	31,142	8,168	67,455
May 29	3,970	3,679	245,752	10,656	83,937	3,798	32,274	7,672	67,682
June 26	3,955	4,015	242,657	11,092	79,589	3,876	34,044	8,126	67,960
July 31	4,133	3,788	238,420	11,127	74,977	3,765	36,363	8,478	66,877
August 28	4,196	4,227	236,170	12,420	72,525	4,351	37,928	8,732	67,250
September 25	3,344	4,156	233,013	12,206	70,024	4,608	40,328	8,560	66,659
October 30	4,383	4,176	237,219	12,813	69,297	4,642	44,591	7,968	63,838
November 27	4,414	4,261	239,761	12,638	69,980	4,379	46,187	8,633	62,143
December 25	4,363	4,185	241,310	12,597	74,024	4,457	43,791	8,689	57,596
1944:									
January 1	4,357	[1]4,453	240,992	13,192	76,302	4,575	42,310	9,141	57,330
January 29	4,409	4,359	240,251	13,427	81,085	4,054	37,266	8,889	52,857
February 5	4,400	[5]4,324	239,145	[5]13,192	81,784	4,138	[5]36,023	9,087	52,734
February 12, 1944	**4,399**	**4,228**	.....	**13,101**	**82,322**	**3,946**	**34,854**	**9,000**	**52,453**
February 13, 1943	3,871	3,569	[4]232,823	10,452	91,758	4,079	36,888	7,688	70,666
Change:									
In week	—1	—96	—1,106	—91	+538	—192	—1,169	—87	—281
In year	+528	+659	+6,322	+2,649	—9,436	—133	—2,034	+1,312	—18,213
In year	+13.6%	+18.5%	+2.7%	+25.3%	—10.3%	—3.3%	—5.5%	+15.8%	—25.8%

[1] All time peak. [2] Lowest since April, 1922. [3] Lowest since October, 1922, due to shutdown of six Mid-Continent States. [4] Stocks, February 6, 1943. [5] Revised.

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● In all weather—on all fronts, America's Aces depend on their engines to pull them through. In making crankshafts, gears, propeller shafts, propellers, landing gears and other forged steel parts for these planes, Ladish fights with America's Aces.

ARMY E NAVY

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CUDAHY [MILWAUKEE SUBURB] WISCONSIN

After it's over

Soon, we earnestly hope, twelve million young men and women whom we will never be able adequately to repay, will come home asking what we have done in the country *they* saved. We'd better have the right answers. One thing: for all of them we *must* have, or make, jobs with the least loss in time and money to them.

The first year after the war, civilian needs will require food and equipment representing at least 165 billion dollars in salaries, wages and material. Thanks to fast and vast war production, agriculture and industry will have the experience and efficiency to perform the task. New machinery of unprecedented capacity will need millions of men and women to operate it with an ease and skill that will provide more comforts on and off the job.

Already, The Harrisburg Steel Corporation has completed, and is developing plans for new products to fill replacements and to perform new services that a war depleted world must have. Whether it be a pump liner for an oil field, a seamless steel cylinder for a stratoliner or a future appliance yet to be revealed, every "Harrisburg" product will include over ninety years of know-how in fine steelmaking.

"Harrisburg" identifies the world's largest producer of seamless, plate made high pressure cylinders, as well as specialists in the production of alloy and carbon steels, pipe couplings, pump liners, liquefiers, hollow and drop forgings, pipe flanges, coils, bends and aerial bombs.

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Over 90 Years of Know-How in Fine Steelmaking

Nebraska Crude Oil Prices Increased

Ceilings on prices of crude in the Falls City and Barada fields, Nebraska, were raised 13 to 15 cents a barrel by OPA, effective February 21; while refinery prices were increased only for tractor fuel, distillate fuel, kerosine, and diesel oil.

New authorized ceilings for Falls City and Barada crudes are $1.03 per barrel for 29-29.9 gravity and $1.05 for 30-30.9 gravity, compared with the former flat price of 90 cents a barrel. The new ceilings are the gravity scale of the upper Mid-Continent.

Stanolind Oil & Gas Company, effective February 12, advanced its postings 5 cents for crude oil purchased in the Salt Creek field, Wyoming, except Tensleep sand crude. New postings begin at 85 cents for below 21 gravity graduated by 2-cent differential to $1.25 for 40 gravity and above. The revision represented an advance of 5 cents a barrel. Formerly, postings for Salt Creek began at 80 cents for 20-20.9 gravity and ranged by 2 cent differential to $1.20 for 40 gravity and above.

OPA has authorized an increase of 13 cents a barrel in ceilings on Lance Creek, Wyoming, crude prices — from $1.12 to $1.25 for 40 gravity and above and a corresponding advance for crudes of lower gravity, based on differential of 2 cents. These changes were authorized as of February 12.

Rack at Drumright for West Texas Movement

Stanolind Pipe Line Company is reported to be negotiating for the purchase and installation of a large tank car rack to use in relaying West Texas crude oil to Middlewest and Eastern refineries from the Drumright, Oklahoma terminal of its 16-inch trunk line from West Texas. This 383-mile 54,000-barrel carrier is scheduled to be in service by April 1. The company is accumulating a backlog of stocks in six 80,000-barrel steel tanks near its Slaughter field originating station to assure full capacity load upon completion of the line. However, it is reported that only 14,000 barrels daily movement has been booked with connecting lines that will move the oil north and east from Drumright.

Operation of a rack at Drumright would materially shorten the turnabout time on cars currently moving West Texas oil from Midland to the East Coast, and assure uninterrupted service on the 16-inch unit.

Mexican Production in 1943 Was 35,200,000 Barrels

Mexico's production of crude oil totaled 35,200,000 barrels in 1943, reliable figures show. That was 1.5 percent more than the 34,716,000 barrels of production reported by government sources for 1942, which was the lowest annual output of the past 10 years. The production of 1943 was 25 percent less than the 46,907,000 barrels reported for 1937, last year before expropriation of private properties by the government.

Exports in 1943 totaled 5,766,000 barrels and domestic sales 27,600,000 barrels. Most of the balance of 1,834,000 barrels unaccounted for probably was added to storage.

Domestic sales of the year were up 5,000,000 barrels from 5 years previously.

U. S. Field Operations

Alabama

First Oil Field Is Seen For Southern Alabama

First commercial production in Alabama is indicated with Hunt Oil Company's Jackson 1, SW NE 2-10n-4w, Croctaw County in the southern part of the state, 15 miles east of Gulf Oil Company's discovery in Wayne County, Mississippi, and 15 miles southwest of Butler. With 50 to 60 barrels of 20-gravity oil per 24 hours, the well is producing from Selma chalk at 2800 feet.

The discovery is the third reported in the Alabama-Mississippi border area in recent weeks. In addition to the Eucutta discovery, Gulf Refining Company also opened the new Heidelberg field from the Eutaw sand, 20 miles west.

Illinois Basin

New Horizon Added to Pool in White County

A new horizon was added to the productive zones in the Concordia pool of White County, Illinois, last week at Great Lakes Carbon Corporation's Tully 1, SE NW SE 21-6s-10e. Drilled as a north outpost, the well pumped 80 barrels of oil and 25 barrels of water from Cypress sand at 2623-36 feet after a 30-quart shot. Total depth was 2636 feet. Horizons already productive are, Tar Springs and Aux Vases sands, and McClosky lime.

Wayne County: The North Markham City pool of Jefferson County was extended into Wayne County by two wells. Sinclair Wyoming Oil Company's McCombs 2, W½ NW SW 18-2s-5e, flowed 1538 barrels of oil in 24 hours from McClosky lime after 5000 gallons of acid. Total depth was 3065 feet. The other well which extended the pool northeast was Magnolia Petroleum Company's Lane 1, SW SW NW 18-2s-5e, which flowed and pumped 708 barrels of oil in 24 hours from McClosky lime at 3028-35 feet after 4000 gallons of acid. Total depth was 3051 feet.

Another important development in Wayne County, was discovery of a new pay horizon in the new extension of the Mill Shoals pool. Robinson & Puckett's Felix 2, NW NE SE 12-3s-7e, during a drill-stem test of McClosky sand flowed oil in 39 minutes from 3345-57 feet. Casing was set for a test. Original production in the pool was from Aux Vases sand.

White County: Gulf Refining Company's Parsons 1, SW SW SW 7-4s-14w, a pool opener near Crossville, swabbed 68 barrels of oil and 9 barrels of water in 24 hours from Paint Creek sand, first listed as Benoist sand. Total depth is 2826 feet. Operator is still testing.

B. M. McGraw's Dagley 1, SW NE SE 2-7s-9e, is extending the Herald pool ½ mile northeast with Pennsylvania sand production. On drill-stem test at 1864-76 feet, well made gas in 35 minutes and filled 1100 feet with oil in 1 hour. Pipe was set at 1864 for test.

Gibson County Gets New Pay

The Owensville North pool of Gibson County, Indiana, was given a new pay horizon at Superior Oil Company's Thompson 3, NW NE NE 25-2s-12w.

The well pumped 12 barrels of oil in 24 hours from Benoist sand at 2102-2109 feet. Drill was taken to the McClosky at 2341 feet and then the well was plugged back to 2111 feet. Other pay zones in the pool are Cypress sand and McClosky lime.

New Kentucky Horizon

A new producing horizon was added to the Genevieve pool of Henderson County, Kentucky, at Wood and associates' 6 Bauldoff, 16-2-22. Initial pump test yielded 50 barrels of oil from Cypress sand in 24 hours from pay at 2252-65 feet, the latter figure total depth, after a 20-quart shot. Only other production in the pool was from Tar Springs sand.

Sun Oil Company and Carter Oil Company gave the St. Vincent pool a slight northern extension with Tapp-Drury 1, 1-0-20. When plug was drilled to test pay in McClosky lime at 2547-52 feet, with casing set at 2549 feet, 700 feet of oil rose in the hole. Operators planned to treat with acid.

Oklahoma

Two Pottawatomie County Tests Indicate New Fields

A Hunton lime field is apparently proven at Stanolind Oil & Gas Company's Werrell 1, NWc 9-7n-3e, Pottawatomie County, although it has not yet been possible to give the well a complete test. Hunton lime was topped at 4547 feet and drilled to 4561 feet, at which point a drill-stem test made some 600 feet of oil into the hole. Following test, additional lime was cored, a portion of this recovery being dry with the remainder saturated. Farther drilling will precede complete testing.

Stanolind's Bell 1, SEc SW 21-11-2e, which drilled to dry second Wilcox

FIRST COMMERCIAL WELL IN FLORIDA

Humble Oil & Refining Company established first commercial oil production in Florida with completion of Gulf Coast Realties 1 in Suniland area of Collier County. The well, pictured above, which was drilled to 11,626 feet, is pumping approximately 50 barrels of net oil daily, 90 percent of total fluid being water. The company is drilling below 6400 feet in Gulf Coast Realties 2, second well in the area and one mile west of the discovery well. As a result of the discovery, millions of acres have been leased and considerable geophysical work is being conducted on the south portion of the peninsula.

sand at 6025 feet, has plugged back to first Wilcox sand and has recovered fair shows in tests below 5922 feet after having the top of the formation at 5917 feet and drilling out the plug to 5926 feet.

Both of these Pottawatomie County wells indicate new fields with rather limited per well production.

McClain County: Carter Oil Company's Johnson Ranch 1, C SW NE 13-8n-4w is coring below 10,420 feet with a recovery from 10,412 to 10,420 feet giving 2½ feet of gray and brown limestone with neither porosity nor oil show. At 10,446 feet the well was drilling in sandy dolomite, section of the drilled formation tentatively identified as being between the first and second Wilcox sands where they are normal.

Carter Oil Company's Cottingham 1, C SE SW 4-7n-3w, which showed possible production, as yet untested in second Wilcox, continued drilling and is below 10,920 feet in dark green shale, typically McLish in character.

Logan County: Atlantic Refining Company's Kerfoot 1, SEc NE 31-18-3w, recent pool opener northeast of Crescent, has run tubing and by agitation headed to flow 65 barrels of oil into storage. Later, the well was swabbed into activity and flowed 101 barrels in 18 hours. It is expected that the well will complete for more than this production as it is doubtful if the hole is yet clean.

Pawnee County: Northern Ordnance, Inc.'s M. Brown 1, NW NE 20-23-3e, north of the old Watchorn field, has obtained fair shows in porous Layton sand at 2712 feet. Testing has failed to indicate possibilities of the showing.

Kansas

Rooks County Has Field, Two Showing for State

Cities Service Oil Company has proven a new oil field at Sikes 1, SWc SE 27-9-19w, some distance from Barry development, in Rooks County. It has been given a state potential of 1326 barrels daily. Arbuckle lime was topped at 3623 feet and drilled to 3667 feet.

Pawnee County: Nadel & Gussman et al's Bixby 1, NE NW 25-20-16w, may indicate either a new field or an extension, southwest of Pawnee Rock production. The well shot a section at 3879-3921 feet with 20 quarts of nitro and gained a fill-up of 600 feet of oil and a little water. This section of formation is in Simpson. The well has not tested Arbuckle.

Graham County: Just off the edge of Morel field, Continental Oil Company has shut down at Hinman 1, NW NE SW 23-9s-21w, after getting only small shows from Arbuckle lime at 3776 to 3817 feet.

West Texas

Winkler County Records Important Discovery

Southeastern Winkler County registered an important oil discovery when Stanolind Oil & Gas Company's Sealy-Smith Foundation 1, C SW SW, G&MMB&A 50, Block A, 6½ miles northwest of the Monahans two-pay pool, nearest production, increased its flow to 10 barrels of 43-gravity oil hourly rate at the end of a 55-minute drill-stem test at 6088-6133 feet. The gas volume was rated at 1,500,000 feet daily. The well threatened to blow out in coring to 6148 feet, and may be carried through the pay zone before setting pipe on bottom to complete through perforations so as to control the excessive gas output. Production is from the Clear Fork (Tubb) section of the Permian, which has accounted for a 34-gravity oil producer in the Monahans pool at comparable depth below the San Andres lime marker. The new discovery entered San Andres at 4010 feet with elevation of 2778 feet. Standard Oil & Gas Company has a 31,600-acre block, forming a "U" shape lease around Shell Oil Company's Monahans pool discovery block of 19,725 acres.

Reagan County: Amerada Petroleum Corporation's Hickman 1-A, C SE SW T&P Ry. 233, extended the Barnhart field ½ mile north west in flowing 511 barrels, gas-oil ratio 1637/1, on 8-hour test through 1-inch after using 4900 gallons of acid through Ellenburger perforations at 8938-62 and 8977-94 feet. This outpost was drilled to 9310 feet, and flowed oil and some salt water from lower pay. Base of black shale was logged at 8920 feet, or 67 feet low.

Superior Oil Company-Wiggins & Hyde's University 1-A, wildcat 2¼ miles northwest of the Grayson pool, is installing pumping unit in anticipation of a 50-barrel well after acidizing broken pay at 3141-75 feet.

Ward County: Shell Oil Company's Sealy-Smith 3, ¾-mile northwest of its Ellenburger oil discovery for the Monahans pool, flowed 232 barrels of 45-gravity oil natural in 9½ hours, averaging 3 percent bs&w, from perforations at 10,350-10,420 feet in Ellenburger, topped at 10,350 feet, or 283 feet low. The oil yield increased to 243 barrels, averaging 8 percent bs&w, on 5-hour test through choke after acidizing with 3000 gallons. This confirmation well for the deep pay failed to make a producer in the 5600 foot Clear Fork (Tubb) pay, the original objective. Gulf Oil Corporation's Edwards 1-B, projected Ellenburger test for the east edge of the county, was drilling unidentified formation at 8117 feet. It is 6½ miles south by east of the Monahans two-pay area.

Winkler County: Sun Oil Company's Walton 3, 2¼ miles southwest of the nearest Holt 4800-foot oil pay on the Keystone structure, recovered 200 feet of oil-cut mud and no water on 15-minute drill-stem test after perforating at 4999-5009 feet. Pay section was logged at 4964-5009 feet with elevation of 2932 feet in drilling to 5029 feet, being somewhat low to other Holt wells. This outpost will be washed with 500 gallons, then treated with 1000 gallons of acid under pressure. Sinclair Prairie Oil Company's Walton 4-A, second prospective Ellenburger producer for the Keystone field, was coring dolomite at 9450 feet. This west by north extension entered Ellenburger and gas-cap zone at 9163 feet, or 68 feet high, and drill-stem test at 9258 feet yielded gas and distillate. Amon G. Carter and Pure Oil Company's Walton 3-C, offsetting their discovery, was drilling lime at 9246 feet, with Ellenburger due at this level.

Magnolia Petroleum Company's Walton-State 21, second producer for the Kermit-Ellenburger pool, experienced difficulty in breaking down formation to permit cement squeeze job through perforations at 10,669-10,679 feet. Pumping pressure was applied at 5500 pounds before the formation broke. Perforations will be made at a higher level because of salt water. The company's Walton 234, ¾-mile northwest of the discovery, entered Simpson at 9700 feet, or 233 feet low, and was drilling at 9760 feet. In the Wheeler-Ellenburger pool, Stanolind Oil & Gas Company and Shell Oil Company's Wheeler 1-A and Mid-Continent Petroleum Corporation's Wheeler 1, were drilling at 10,418 feet and 10,390 feet, respectively, with top of Ellenburger due within the next 200 feet.

Hockley County: Stanolind Oil & Gas Company's Cobb 1, promising Clear Fork wildcat, was apparently eliminated due to water showing up on swabbing test after using 2000 gallons of acid in broken pay at 4639-69 feet. This prospect returned 133 barrels of fluid, ranging from 20 to 60 percent bs and no water, on 18-hour swabbing test, then tested 167 barrels of fluid the next 24 hours, with 45 percent water showing the last 6 hours.

East Texas

Navarro Wildcat Testing Probable Producing Zones

The Navarro County wildcat of Brown & Wheeler, Inc., on the Guy M. Gibson 791-acre tract, Julian Fontenoy Survey, 8½ miles north by west of nearest deep production in the Cayuga field, began perforating late last week to test 2 probable producing zones after drilling to 7528 feet in Travis Peak, topped at 7370 feet with elevation of 286 feet. Initial perforations will be made in porosity and saturation at 6555-63 feet in massive anhydrite logged at 6520-6640 feet. This zone is not productive elsewhere in the district. Gibson 1 entered the Rodessa at 6650 feet, and electrical formation survey indicated production in 6 zones, aggregating 32 feet, between 6651 to 6722 feet with broken porosity to 6812 feet. The water level in the Rodessa was placed at 6820-34 feet. The Pettit was topped at 7195 feet, but without porosity, while water prevailed in the Travis Peak from 7370 to 7410 feet.

Brown & Wheeler own the well and 40-acre site, while the supporting block of 13,000 acres is owned two-thirds by the firm and one third by W. J. Weaver, trustee for Owenwood Pool No. 3. Magnolia Petroleum Company, Sohio Petroleum Company and Phillips Petroleum Company hold acreage within and adjacent to the block, which was acquired at a cost of about $45,000. Independents were attracted to the area by an old geological bulletin issued by the University of Texas.

Limestone County: Zephyr Oil Company's Nussbaum & Scharff 1, S. H. Bates Survey, 3 miles west of Groesbeck, is rated as a promising prospect, having yielded 25 feet of green oil and mud; 300 feet of rotary fluid and 400 feet of gas-cut mud when tester was used in top of Rodessa at 4742-4805 feet. Top of massive anhydrite was called at 4704 feet with elevation of 496 feet. It will be carried to Travis Peak before landing pipe to try for completion, and was drilling 5055 feet.

Smith County: Skelly Oil Company's Chisum 1, prospective dual-pay discovery for the Sand Flat structure, junked the lower section of the cased hole, thus eliminating a small oil producer from perforations in the Rodessa zone,

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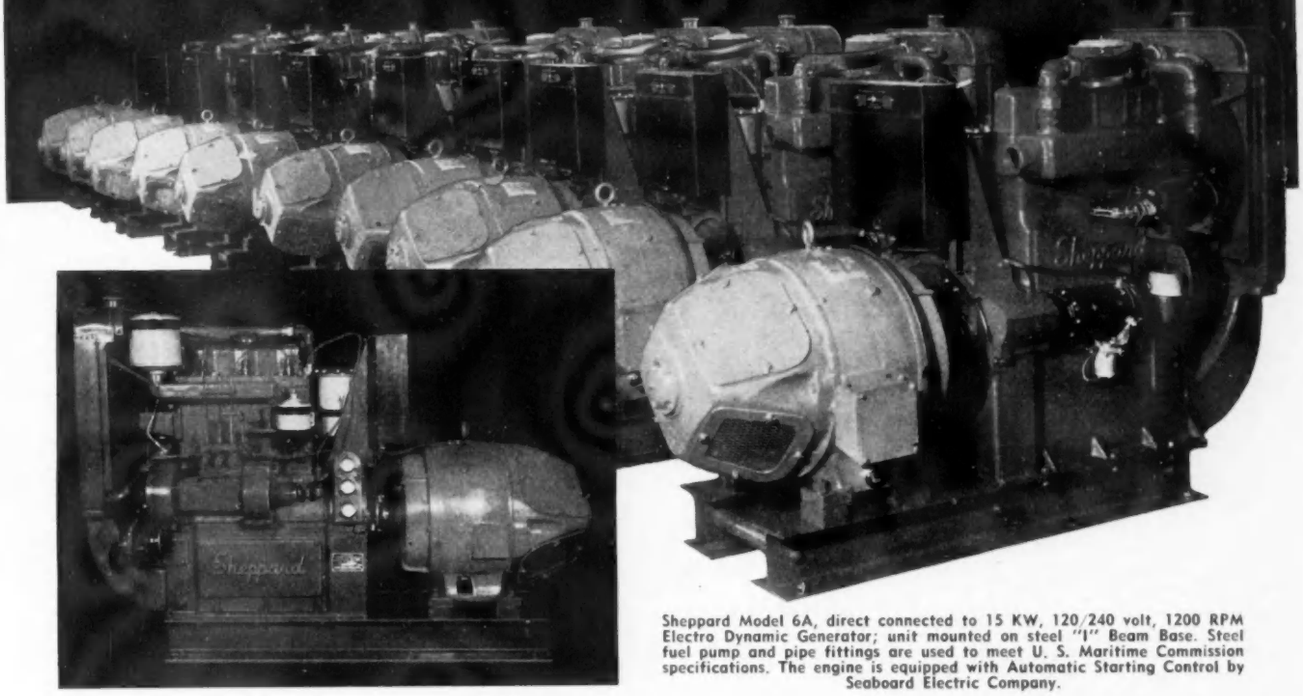

Sheppard Model 6A, direct connected to 15 KW, 120/240 volt, 1200 RPM Electro Dynamic Generator; unit mounted on steel "I" Beam Base. Steel fuel pump and pipe fittings are used to meet U. S. Maritime Commission specifications. The engine is equipped with Automatic Starting Control by Seaboard Electric Company.

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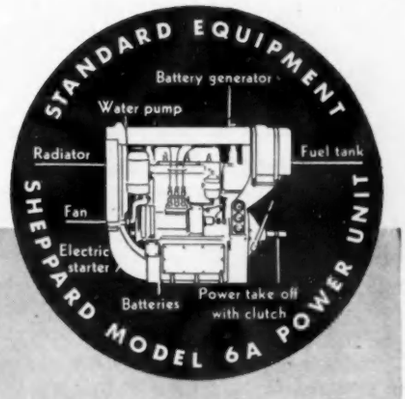

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and is trying to complete in the Paluxy. Additional cement was squeezed behind pipe at 6956-7274 feet, and drill-stem test through perforations in Paluxy saturation at 7240-63 feet yielded 565 feet of muddy salt water. More perforations will follow. Arkansas Fuel Oil Company's Marsh 1, southeast outpost, was unloading for production test after perforating at 7080-7118 feet, having halted at 7377 feet with pipe 7 feet off bottom. Sun Oil Company's Patterson 1, cut first fault at 6245 feet and second displacement at 6778 feet, and was drilling at 8080 feet. The Paluxy sand section at 7188-7210 feet was void of porosity. Phillips Petroleum Company's McMinn 1, wildcat 6 miles south of Tyler, was drilling limey-shale at 8770 feet, carrying a trace of free oil in returns from first Glen Rose porosity at 7972-8000 feet.

Franklin County: Tide Water Associated Oil Company-Seaboard Oil Company's Campbell 1, northeast outpost for the New Hope multi-pay area, flowed 40 barrels of 52.7 gravity oil hourly on 1-inch choke from Travis Peak perforations at 8156-90 feet, establishing a new and deeper pay. This strike later flowed 11 barrels hourly, gas-oil ratio 1420/1, on ¼-inch choke, then was killed to perforate upper pay at 7260-78 feet for dual completion. The partnership's Elledge 1, west outpost, flowed 24 barrels of 43.9-gravity oil hourly, gas-oil ratio 217/1, on ¼-inch choke from Hill sand perforations at 7442-46 feet with hole bottomed at 8300 feet, thus confirming 4 oil pays for the field. The latter will also be perforated in the Bacon or Pittsburg zones for a dual-producer. Humble Oil & Refining Company's Hague 1, wildcat, was drilling shaley-lime at 10,260 feet.

Wood County: Gulf Oil Corporation's Brewer 1, Winnsboro prospect, halted at 8719 feet to run electric log with last reported shows in Rodessa at 8001-10 feet. Magnolia Petroleum Company's Lindley 1, Yantis prospect, logged massive anhydrite at 7470-7567 feet, and was drilling at 7700 feet. Hunt Oil Company's Kennedy 1, 2 miles northwest of Quitman, showed water in Paluxy, topped at 6366 feet with elevation of 442 feet, and was drilling at 6405 feet to ascertain top of first Glen Rose.

A new discovery or wide extension of the Carthage gas-distillate area in Panola County resulted when Continental Oil Company's Burnett 1, I. F. Cheairs survey, was drilled to 9306 feet, plugged back and dually completed in the Pettit lime and the Hill section of the Rodessa series. Gauge in the Pettit was 7,730,000 feet of gas and 96 barrels distillate from daily 5695 to 5735 feet after use of 1500 gallons of acid. In the Rodessa, tests indicated 8,000,000 cubic feet of gas and 144 barrels of distillate through perforations at 4955 to 4985 feet.

North Texas

New Shallow Field Near Archer City

Archer County gained a shallow oil pool through Martin Properties, Inc.'s, John Purcell 1, Jose Ostane Survey and 1½ miles northwest of Archer City, having pumped 68 barrels of 39-gravity oil and 36 barrels of water initial from sand at 1150-54 feet. Nearby dry holes will likely confine the new strike to a small area.

Jack County: Panhandle Refining Company (successor to J. Homer Mann) proved a shallower oil pay in a one-well pool in southwestern Jack County, when Kinder 1, NWc of Section 2667, TE&L Survey, flowed 25 barrels natural through ½-inch choke from perforations opposite oil sand at 1847-58 feet. Schmid & Willis opened the area in 1940 with a small pumper from sand at 2130-58 feet.

Southwest Texas

New Pay Sands Opened in Jackson, San Patricio

Pure Oil Company has opened a new pay at West Ganado in Jackson County, where the company's Wiese 1, which had been producing from the 6000-foot horizon, went to salt water, and was reperforated at 6174-88 feet. The potential was 104 barrels of 33.8 gravity oil daily through ⅛-inch choke. Total depth is 6360 feet with 5½-inch casing set to 6236 feet.

San Patricio County: W. R. R. Oil Company is reported to have opened a new pay sand at East White Point with State-Nueces Bay 5-973 flowing 78 barrels daily through 9/64-inch choke. The well is producing from "Myers" sand perforations at 5650-60 feet after topping the pay at 5650 feet. Located on the south flank of the structure, the well originally was completed in November, 1940, at 5535-45 feet, but recently was drilled out to 5660 feet and found the new section.

McMullen County: Gulf Oil Corporation is making additional tests at Shiner 1, Section 55 of Shiner Ranch, Sidney Sherman survey, 14 miles south of Tilden indicating a new gas-distillate field. Perforated at 8000-06 feet, gas and distillate were recovered on drill-stem test, and the hole was plugged back to test higher. Oil and gas shows were found at 5480-90 feet, 5498-5576 feet, 6642-62 feet, 6672-80 feet. Hole is bottomed at 8113 feet with 5½-inch casing set to 8109 feet. Testing is being done inside Wilcox.

Bee County: Magnolia Petroleum Company has established a new gas-distillate area 2 miles southwest of the Burnell-Wilcox discovery. The company's Ingram 1 flowed 51,000,000 feet gas daily, open, from Slick sand of Carrizo-Wilcox perforations at 6660-70 feet. Several sections below this level were tested. The hole is bottomed at 7021 feet with 5½-inch casing cemented at 6885 feet.

Discoveries: Humble Oil & Refiining Company has completed Brownlee (San Antonio Joint Stock Land Bank), J. Wright Survey 19, for 32 barrels of 43-gravity oil daily through ⅛-inch choke, gas-oil ratio 8015-1. Production is from perforations at 4948-50 feet. Total depth is 5373 feet with 5½-inch casing set to 4985 feet. The well is 1½ miles southwest of Alfred.

Texas Conservative Oil Company is preparing to complete its second well at North Odem in shallow gas sand. Elliott 1, block 24 of Welder & Odem subdivision, one-half mile northwest of Gaines 1-A discovery, failed to pick up the 5430-foot sand high enough to make a producer.

Texas Gulf Coast

First Major Discovery Of Year at Smith Point

Standard Oil Company of Texas is credited with first major oil discovery of year with tests being run on State-Bay 1-109 on Smith Point prospect 1½ miles offshore from Chambers County in Galveston Bay.

On last test the well, which had 21 feet of oil sand, flowed 324 barrels of 40.8-gravity oil daily through 5/32-inch choke, 1500 pounds flowing pressure. Gas-oil ratio was 600-1, and perforations were made at 8135-46 feet after perforating at 8155-61 feet and squeezing. The hole is bottomed at 8625 feet and 7-inch casing was cemented on bottom.

The production is from Frio sand. Large Discorbis was topped at 7045 feet, Heterostegina at 7381 feet, Round Marginulina at 7568 feet, Flat Marginulina at 7660 feet and Marginulina No. 7 at 7877 feet. The location was made on geophysical picture, supplemented with subsurface control from dry holes drilled in the area, and the successful test was the third for the company in the area.

Discovery: Cities Service Oil Company and Jack W. Frazier are making final tests on Gay 1, wildcat discovery of field 3 miles northwest of Columbus, Colorado County. One test in perforations at 7665-68 feet flowed at rate of 98 barrels of 44-gravity oil daily and 1,904,000 cubic feet of gas through ¼-inch choke. First test was made at 7810-12 feet and showed gas and distillate and some water. Depth is 8037 feet with 5½-inch casing set to bottom.

Outpost: American Republics Corporation and Houston Oil Company have completed Cushing Fee 3-R, T. Cushing League, extension to Ramer Island field, Tyler County. The well was completed in open hole below the 5½-inch casing cemented at 5395 feet, for 505 barrels through ¼-inch choke. The total depth is 5399 feet, with top of sand at 5391 feet. The field produces from Wilcox.

Failure: Second well in new Rockland field of Tyler County has been abandoned. Humble Oil & Refining Company drilled Kountze 2 to 3575 feet, past the Carrizo-Wilcox which produces in the discovery at 3415-33 feet. The outpost failure is 1 mile northeast of Rockland in lot 11, Emily Symth survey. Another location has been staked.

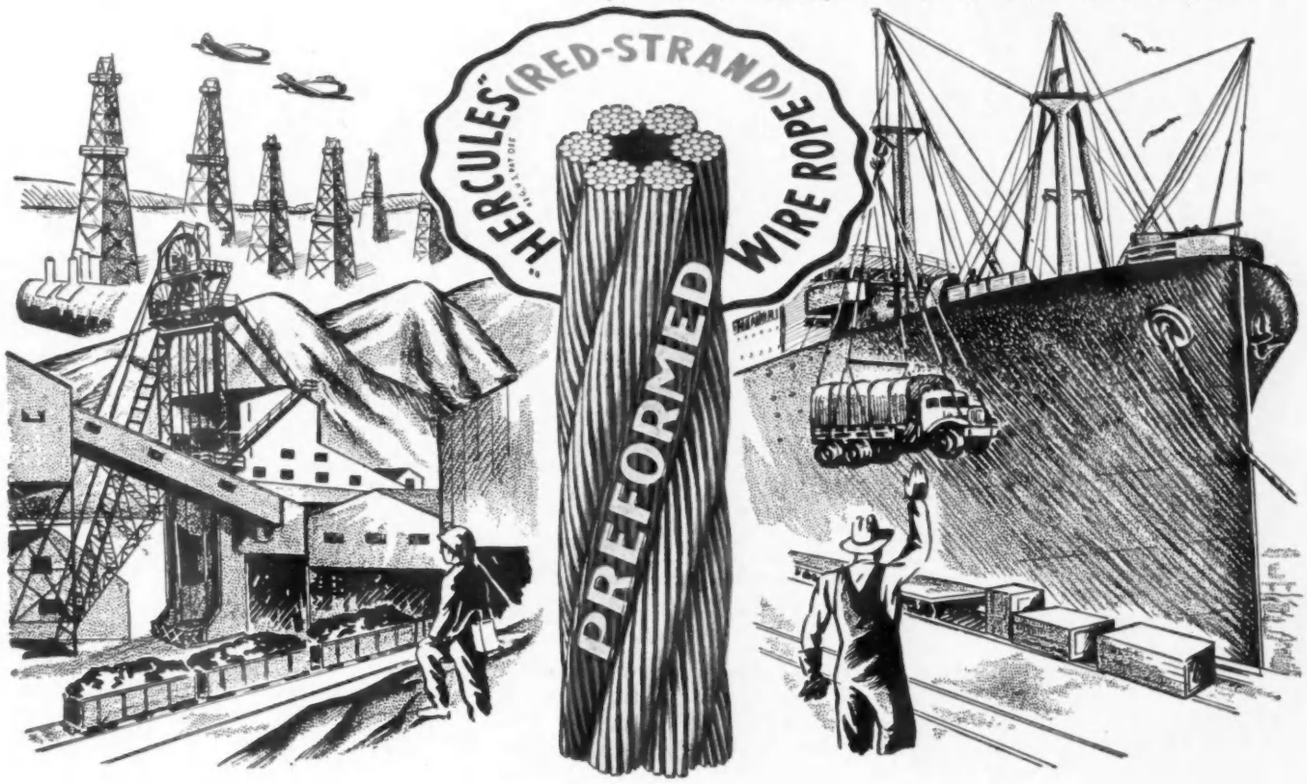
South Louisiana

Production Pipe Set in Laurel Ridge Prospect

Humble Oil & Refining Company has set production pipe in Federal 1, Section 1-11s-13e, indicated field opener on Laurel Ridge prospect in Iberville Parish. The well is credited with oil and gas shows although details have not been announced. Bottomed at 11,650 feet, it tried to blow out at 11,480 feet. Previously, operators had set 9-⅝-inch casing to 8270 feet.

New Sand: Gulf Refining Company has completed potential on State PP 9, Section 2-23s-30e, at West Bay in Plaquemines Parish. Perforations were made at 10,442-52 feet in new pay section, tubing pressure mounting to 4500

Dependable "PREformance



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Our own high standards in *every* phase of wire rope manufacture over a period of many years, has made it possible for our product to shoulder a greater share of the extra burden imposed by war. Preformed "HERCULES" (Red-Strand) Wire Rope is especially qualified for the difficult jobs. The inherent qualities of this time-tested rope, plus the advantages of Preforming—make for easier, quicker and safer work . . . more production from each pound of steel . . . greater efficiency.

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pounds. The company has started drilling Timolat 7-B in same field, and probably will test the new sand.

Development: Drilling is showing an increase throughout the coast. Majority of new development is in proven areas or on flanks of salt domes. New deep tests have been projected at Richie in Acadia Parish, Sweetlake in the same area, and at Paradis in St. Charles Parish. Other operations are getting under way at Bayou Sale and Belle Isle in St. Mary Parish. The Texas Company is spudding a deep wildcat in Bayou de Fleur area, Section 65-16s-24e, Jefferson Parish, and is drilling rear surface in Perkins-LeDanois 1, deep Wilcox test on the west flank of Pine Prairie dome in Evangeline Parish.

Acadia Parish: Union Sulphur Company is cutting and pulling stuck drill pipe in Diagle 1, Section 49-7s-2e, wildcat blowout southwest of Church Point. The well started "kicking" at 9718 feet after topping sand at 9815 feet, bridged and stuck drill pipe.

St. James Parish: Humble Oil & Refining Company has spudded Colonial Sugars 3, Section 17-11s-4e, outpost at Hester. The company recently completed Colonial Sugars 2, Section 1-11s-5e, for 4 barrels of distillate and 222,000 cubic feet of gas daily on ¼-inch choke from perforations at 9742-9770 feet.

Deep Tests: Union Producing Company is coring for pay sands in Buckley-Bourge 2, Section 1-20s-16e, deep well at DeLarge in Terrebonne Parish. Coring is underway below 11,500 feet after setting protection pipe to 11,463 feet. This field has the deepest production into the world.

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BOLTED STEEL TANKS

. . . for outstanding achievement in war production.

Just as Columbian has for years skillfully fabricated bolted steel tanks that assure long-life and an extra measure of protection . . . just as these quality features of construction are today meeting the exacting requirements of the Armed Forces . . . so will Columbian continue to supply oil producers with bolted steel tanks that pay extra dividends for every dollar invested in them. These tanks are available to oil producers now. *You can depend on the name "COLUMBIAN."*

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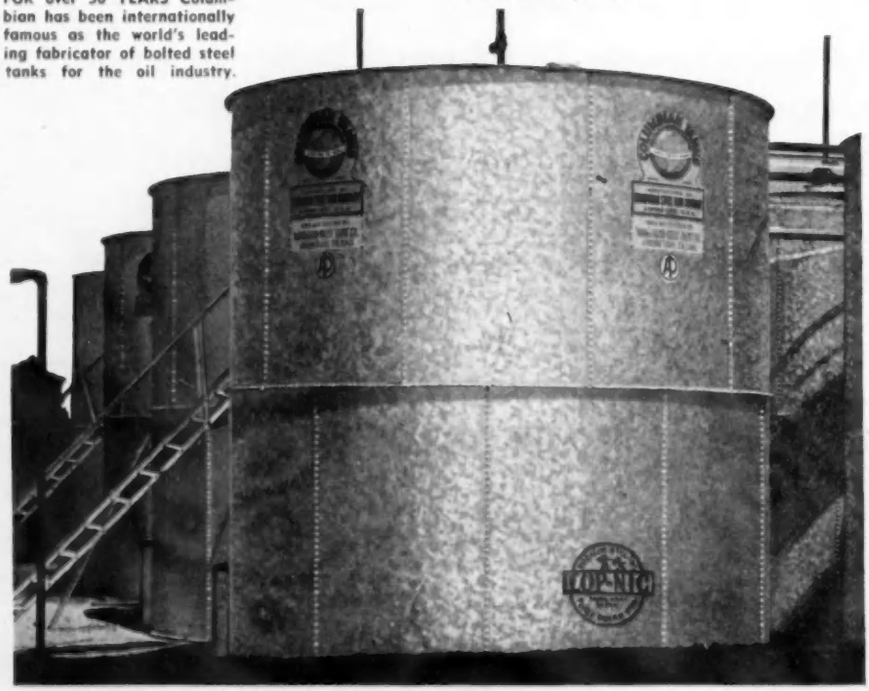
FOR over 50 YEARS Columbian has been internationally famous as the world's leading fabricator of bolted steel tanks for the oil industry.



North Louisiana

Wide Development Seen for Claiborne Parish

After a 10-day battle, a blazing gas-condensate well has been extinguished at Lisbon, Claiborne Parish, where extensive development is expected to the north as a result of recent tests. Union Producing Company's Nolen 1, NW NE NE 9-21n-4w, caught fire after being completed from 7712-32 feet, with an estimated production of 20,000,000 feet of gas and 15 barrels of condensate per million feet.

Several other wells are drilling to the north of the field with reported good showing in Big West Drilling Company's Rainach 1, 16-22n-5w, 4 miles northeast of production. This well was reported to have cored favorably at depths opposite those in the producing area. Big West's Alford B-1, NE SW SW 2-21n-4w, was perforating at 7853-60 feet after topping the pay zone at 7848 feet and setting casing to 7920 feet. Wells are drilled in the area on 320-acre basis under PAW rules.

Tensas Parish: Unfavorable results were reported at three tests in the Holly Ridge discovery area, one a wildcat 2 miles northeast, and the other two outposts north and northeast of the deep Tuscaloosa producing area. Sohio Producing Company's Penrod-Jordan 1, SE SE 8-11n-10e, 2 miles northeast of production, tested a dry core from 8407-27 feet. Union Producing Company's Penrod-Jordan 3, SW SE 18-11n-10e, north offset of the company's Penrod-Jordan 2 producer, tested salt water after topping Tuscaloosa at 8375 and drilling to 8439 feet. Carter Oil Company's Marks 1, NW NE 19-11n-10e, north offset of the discovery well, after drilling to 8436 feet made a drill-stem test from 8414-8430 feet, recovering salt water, mud and some oil. All three wells are awaiting orders.

Arkansas

Second New Pool of Year In Columbia County

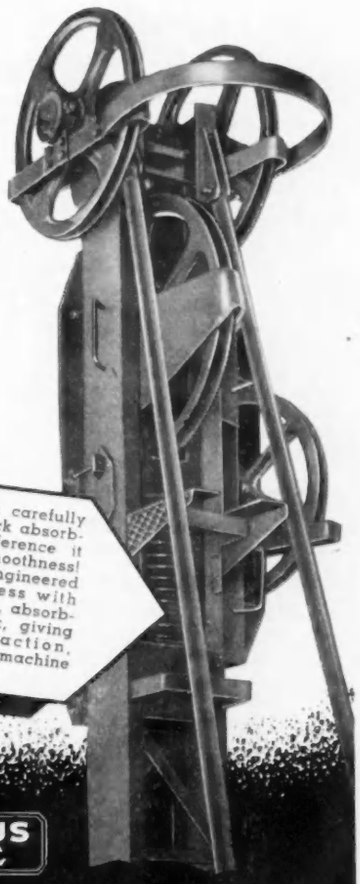
The past week has been one of the best in months, with a total of 8 new producers being reported, all but one in Columbia County. One of the eight opened the second new pool of the year for Arkansas.

An area was opened to development by completion of Tide Water Associated Oil Company's Pearce 1, C NE NW 10-17n-20w, 3 miles west of the west extension of the Atlanta field. The well on a 8/64-inch choke flowed 85 to 90 barrels of 50-gravity oil a day from Smackover lime, where perforations were made with 31 shots between 8282-7 feet. Total depth was 8290 feet with 19 feet of saturated lime.

Tide Water's Paul Young 1, C NW SE 18-18-19, made 115 barrels a day. Phillips Petroleum Company brought in J. S. McWilliams 1, C N½ SE 13-18-22, making 18 barrels of distillate the first 6 hours; and O. A. Phillips 1, NWc 19-18-2, showing only gas with new tests planned.

The Carter Oil Company completed Caldwell 1, SW SE 13-18-22, making 105 barrels, 15 percent salt water; and R. A. Stacey brought in Jeff Hunt 2,

Bucyrus-Erie Spudders give you *Smooth* Drilling



Smooth drilling is profitable drilling, and with Bucyrus-Erie spudders you get the smoothest action you can find. Put a glass of water on the frame of a Bucyrus-Erie while it's delivering powerful blows and prove the smoothness of this machine in action.

There's a reason for this operating smoothness, for high on the derrick just under the crown sheave there's an exclusive rubber shock absorber which prevents the destructive shock of each drilling blow from reaching precision machinery. That's why Bucyrus-Eries have the easy action that means so much in cutting cable wear, in adding years to the life of the machine, in increasing your profits.

You get greater footage, too, for the compressing action of the shock absorber gives the drilling motion a snap at just the right point to produce the kind of shattering blow that makes the most hole.

It looks simple, this carefully designed rubber shock absorber, but what a difference it makes in drilling smoothness! Efficient, precisely engineered rubber discs compress with each drop of the tools, absorbing the drilling shock, giving a snappy drilling action, increasing the life of machine and cable.

BUCYRUS ERIE

36-L

Look over these specifications of the 36-L: The Last word in spudders — modern, compact, all-steel, highly mobile. Handles over 5000 pounds of tools in shallow holes, or combined weight of over 6000 pounds of tools and cable in deeper holes. Will pull 4200 pounds of tools from 3000 feet in 8 minutes. Two speeds and instantaneous reverse on all drums, dual oversize brakes on bull reel and sand reel. Powerful gas — gasoline engine, 54-ft. telescopic derrick with casing tackle strut will take 50,000 pounds static load. Handy operation, quick moves and set-up. Gasoline or diesel power.

K-46

ARMY E ★★ NAVY

Bucyrus-Erie

SOUTH MILWAUKEE, WISCONSIN, U. S. A.

C N½ SW 11-8-22, for 162 barrels per day.

In the Dorcheat-Macedonia area Lion Oil Refining Company's Whitlow 1, 21-28s-21w, was flowing into tanks from both Cotton Valley and Smackover with no gauge.

Nevada County: Another pumper was obtained by McAlester Fuel Oil Company's J. R. Williams C-2, NW SW SW 1-15-20, making 85 barrels a day.

Union County: Difficulties with salt water were reported from the Smackover lime deep test between 5047-49 feet in the Smackover field, at Phillips Petroleum Company's Betty Joyce 23, 33-15-15, and at Lion's Powledge 1, 20-18-17, on the east edge of the Shuler field. Squeeze jobs are in progress on both wells. It is understood that Phillips may seek production in the Nasatosh sand if the well fails in the lime.

California

Search for Gas Fields Featuring Activities

A new gas field, importance of which is not yet determinable, was opened by Richfield Oil Corporation's Afton 1, 34-19-1, in the Chico area of Glenn County, 17 miles north of Marysville Buttes. The well, not yet cleaned, was making 4,000,000 to 5,000,000 feet daily.

Exploration for gas fields continues active, gas discoveries being the primary objective of six of the nine wildcats announced last week.

Kern County: South Belridge's depths ranging from 850 to 1100 feet make possible development at low unit cost, with uniformity of saturation holding risk of dry holes to a minimum. One operator recently brought in six of the wells, with an aggregate footage of 6035 feet, making total daily production of 235 barrels of low-gravity oil.

Imperial County: Larger California companies are preparing for extensive wildcatting of Imperial Valley, the large virgin area, once a part of the Gulf of Lower California. Much of the valley is below sea level. Pure Oil Company, Standard Oil Company, and the Texas Company are among those who have assembled large blocks. Drill obligations are known to call for the start of at least two wildcats before March 1.

Los Angeles County: After a lapse of more than a year since the discovery well was brought in on the Ferguson area extension to the southeast of the Newhall-Potrero field, General Exploration Company completed a first offset with an initial flow of 400 barrels of 34-gravity clean oil.

Michigan

Scattered Development Mostly on Field Edges

Exploratory drilling continues active in central and northern counties while field development is scattered and mostly on edge locations with the state short of any substantial proven areas undrilled at this time. Four potential pools were opened in January but completions the past week failed to produce a standout wildcat development.

Missaukee County: Sun Oil Company's Miller 1, S½ NW NE 13-23n-5w, Enterprise Township, a mile southeast of a deep Richfield lime well, topped the formation at 4383 feet and was carrying 2000 feet of water at 4500 feet. E. V. Hilliard's Woods 1, SW SW SW, 14-22n-7w, logged Dundee at 3900 feet and was shut down at 3997 feet for orders.

Producers in the Reed City field, the state's biggest flush area, have filed a formal protest with the State Conservation Commission against Director P. J. Hoffmaster's action December 16 when he ordered reduction of the base allowable from 125 to 100 barrels. Petitioners want the commission to review the case and set aside the director's order as being "unreasonable, unjustifiable and arbitrary." The appeal was joined by Pure Oil Company, Gulf Refiining Company and Ohio Oil Company, who control over 75 percent of the field, and several smaller operators.

In ordering the cut Hoffmaster went over the head of the Oil Advisory Board for the first time since enactment of the 1939 oil law. The board had voted against any change. The Oil and Gas Association of Michigan joined in the appeal to the commission by a resolution asking that the order be vetoed.

Rocky Mountain Area

Garland Wells Prove Tensleep Over Big Area

Stanolind Oil & Gas Company's Shoshone-Arapahoe 1, SW SE SW 18-2n-1w, Wyoming, now in the course of completion, is a discovery in Tensleep sand at 2878-2913 feet. On drill steam test at 2887-2913 feet, still in sand, with tester open 1½ hours, it showed 1500 feet of oil and no water. This well is on Winkleman Dome, a faulted anticline with 125 feet of closure, formed in the beds of Mowry shale of Cretaceous age. Two wells have previously been drilled on the structure, each developing approximately 3,000,000 feet of gas in the Morrison at 945 feet.

Garland Tests: Present developments in the Garland field are proving the existence of a belt of oil in the Tensleep sand below the gas cap, covering a large area. General Petroleum Corporation's Howell 1, Lot 63, 32-56n-97w, logged top of the Tensleep at 4314 feet and stopped at 4438 feet for a drill-stem test. With tester open 15 minutes, the pipe filled up 39 stands with oil and on swabbing test the well produced at the rate of 35 to 40 barrels of oil an hour. The well at present is flowing by heads. Gravity of the oil is 25 API.

Ohio Oil Company's Ohio-Kinney Coastal Unit 5, NW SW SW 13-56n-98w, topped the Tensleep at 4349 feet and at 4485 feet, 136 feet in Tensleep sand, has reported 100 feet of saturation. On drill-stem test at 4350-4455 feet, open 15 minutes, the oil rose at the rate of 7 barrels an hour.

Clark's Lake: Amerada Petroleum Corporation has installed pumping equipment and is putting on production Hartshorn 1, SE NE SW 15-9n-68w, recent Colorado discovery in Muddy sand at 5888-5926 feet. After shooting with 80 quarts in the Muddy it is estimated good for 50 barrels of 37-gravity black oil daily on pump. Hole was drilled to 6510 feet, the Sundance tested water and it was plugged back to 5926 feet.

The Core Is Rotten

Here are the words of a man too high in office to make any public statement without administration approval: "The government will have to enter into direct financing of activities now supposed to be private, and a continuance of that direct financing must mean inevitably that the government ultimately will control and own those activities. . . . Over a period of years the government gradually will come to own most of the production plants of the United States." How do you like that apple? And it's the core that's rotten—not a spot on the peel. **Why** must the government finance activities now supposed to be private? Because the bureaucrats have made free private enterprise either unprofitable or intolerable. Democracy in America is desperately ill. While we wait for the crisis TRY PELCO FIRST. We are as yet a free private enterprise —and articulate.

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Lake Charles

United States Well Completions

ARKANSAS

Columbia County — Dorcheat - Macedonia: Carter Oil Co.'s Caldwell 1, sw se 13-18-22, perf 7219-32 ft 52 shots, 105 bbls oil, 15% salt wtr, td 9000 ft.

R. A. Stacey et al's Jeff Hunt 2, c n½ sw 11-18-22, perf 35 shots 8884-92 ft, 162 bbls, td 8896 ft.

ARKANSAS WILDCAT

Columbia County—Discovery: Tide Water's Pearce 1, c ne nw 10-18-20, perf 31 shots, 90 bbls, td 8290 ft.

CALIFORNIA

Fresno County—Coalinga: Standard's 35-3c, ne nw ne 3-20-15, pump 128 bbls 20.9-gr, 162 ft perf 3154 ft, td 3160 ft.

Fresno County—Riverdale: Amerada's Lawton 76-26, sw ne se 26-17-19, swabbed all salt water, abnd 8102 ft.

Kern County—Belridge, South: Belridge Oil Co.'s 34-34, sw se nw 34-28-21, pump 45 bbls 16.8-gr, 22 wtr, 526 ft perf 990 ft, td 990 ft.

Belridge Oil Co.'s 34A-34, sw se nw 34-28-21, pump 35 bbls 14.4-gr, 5 wtr, 436 ft perf 850 ft, td 850 ft.

Belridge Oil Co.'s 43A-34, ne se nw 34-28-21, pump 40 bbls 16.4-gr, 10 wtr, 556 ft perf 1100 ft, td 1100 ft.

Belridge Oil Co.'s 44-34, se se nw 34-28-21, pump 40 bbls 14.4-gr, 6 wtr, 576 ft perf 1080 ft, td 1080 ft.

Belridge Oil Co.'s 44A-34, se se nw 34-28-21, pump 35 bbls 13.4-gr, 5 wtr, perf 504-940, td 940 ft.

Belridge Oil Co.'s 54A-34, sw sw ne, 34-28-21, pump 40 bbls 14.1-gr, 4 wtr, perf 489-1075 ft, td 1075 ft.

General Pet. Corp.'s 58-2, sw se ne 2-29-21, pump n est, perf 644-95, 860-70, 895-910, 945-80, 1010-21 ft, td 1022 ft.

Kern County — Fruitvale: Western Gulf's KCL-A 2-1, ne sw se 22-29-27, flow 85 bbls 16.5-gr, 23 wtr, 30/0 lbs, perf 4520-3680 ft, td 4655 ft.

Kern County — Greeley: Standard's KCL 11-40, sw se nw 18-29-26, flow 5100 bbls 36.1-gr, 1,083,000 gas, 24/64-in, 1395/950 lbs, 113 ft perf 11,508 ft, td 11,510 ft.

General Pet. Corp.'s Mitchell 3, ne ne sw 1-29-25, swabbed wtr with little oil, no gas, Rio Bravo 11,485 ft, abnd 11,612 ft.

Kern County—Kern Front: Standard's 10-6-27, nw ne se 27-28-27, pump 165 bbls 12.8-gr, 25 wtr, 200 ft perf 2440 ft, td 2450 ft.

Tide Water's Chicago Crude 11, se sw sw 4-28-27, pump 30 bbls 14-gr, 24 wtr, 334 ft perf 1178 ft, td 1178 ft.

Kern County—Midway-Sunset: General Pet. Corp.'s Moco 35-373, ne sw se 35-12-24, pump 56 bbls 13.2-gr, 37 wtr, 201 ft perf 1930 ft, td 2019 ft, pb 1931 ft.

Kern County—Mount Poso: Ring Oil Co.'s Bowles 29-26, se ne sw 29-26-28, pump 92 bbls 15.4-gr, 25 ft perf 1805 ft, td 1805 ft.

Kern County—Paloma: Western Gulf's Symons 31-7, nw ne nw 7-32-27, flow 152 bbl rate 55.4-gr, 331,000 gas, 10/64-in, 100/0 lbs, 73 ft perf 11,354 ft, oil sand 11,275 ft, td 11,569 ft.

Los Angeles County — Rosecrans-Athens: Shell's Bank 2, 1799 ft n 919 ft w c/l Rosecrans and Figueroa, flow 619 bbls 30.8-gr, perf 8645-8338, 8318-8178, 8173-8043, 8013-7915, 7895-7630 ft, td 8832 ft, pb 8650 ft.

Los Angeles County—Torrance: Le Bow & McNee's Dominguez Estates 9, 950 ft ely along Huntington fr sec lease thence 330 ft wly at r/a, pump 113 bbls, 47 wtr, perf 3255-3315, 3420-3650 ft, td 3660 ft.

Los Angeles County—Wilmington: General Pet. Corp.'s Ford 44, 3311 ft s 1298 ft e c/l Ford and Anaheim, pump 176 bbls 14.2-gr, 48 ft perf 2614 ft, td 2615 ft.

Long Beach Oil Dev. Co.'s "W" 68, 962 ft nely along n/l Seaside fr e side 27th Ave thence 1582 ft sely at r/a, pump 154 bbls 14.8-gr, 10 wtr, perf 2873-3216 ft, td 3221 ft.

Long Beach Oil Dev. Co.'s "W" 73, 520 ft nely along n/l Seaside fr e side 22nd Ave thence 100 ft sely at r/a, pump 82 bbls 16.7-gr, perf 3069-3330 ft, td 3335 ft.

Union Pacific's 222, 8153 ft s 335 ft e c/l Ford and Anaheim, pump 92 bbls 14.6-gr, 12 wtr, 336 ft perf 3606 ft, td 3613 ft, pb 3600 ft.

Orange County—Huntington Beach: Huntington State Co.'s State 7, 124 ft swly 219 ft nwly fr c/l 21st and Ocean, flow 2400 bbls 19-gr, 225,000 gas 30/64-in, 250/335 lbs, 1497 ft perf 3946 ft, td 3954 ft.

Signal Oil & Gas Co.'s Bolso 51-A, 1802 ft n 2338 ft w swc Plot "C," Bolsa lease, pump 98 bbls 28-gr, 42 wtr, perf 4636-4421, 4381-4110, 4038-3910, 3870-3734 ft, td 4651 ft.

Standard's A-52, 3-6-11, pump 125 bbls 16.4-gr, 152 ft perf 3521 ft, td 3523 ft.

Santa Barbara County—Santa Maria Valley: Union's Bradley Lands 1-8, sw sw sw 25-10-34, pump 234 bbls 14.5-gr, 63 sand and wtr, 680 ft perf 5188 ft, td 5400 ft, pb 5190 ft.

Ventura County — Ventura Avenue: Shell's Taylor 168, 2333 ft s 4826 ft w R.C.L. No. 11, flw 1260 bbls, ⅝-in, 260/750 lbs, 773 ft perf 5296 ft, td 5300 ft.

Tide Water's McGonigle 3A **(old well deepened)**, flow 925 bbls 32-gr, 1,388,000 gas, 2-in, 50/500 lbs, whipstocked fr 5135 ft, redr to 8325 ft, otd 7183 ft.

CALIFORNIA WILDCATS

Fresno County — Extension: Standard's 67-17E, ne sw se 17-21-15, Jacalitos area, flow 3,500,000 gas, 40/64-in, 580/950 lbs, perf 3700-20, 3730-60, td 5540 ft, pb 4650 ft.

Glenn County—Extension: Superior's Capay Grant Comm. 1, nw sw sw 12-21-2, Ord Bend area, flow 4,200,000 gas, 24/64-in, 1220/1210 lbs, perf 3670-77, 3675-80 ft, Tehama 1945 ft, gas sand 3670-3684 ft, td 3993 ft.

Kern County—Extension: Golden Bear Co.'s New Hope 7, nw se sw 29-27-27, extension McVan area, pump 68 bbls 12.4-gr, 22 wtr, perf 2583-2615 ft, td 2652 ft.

Kern County—Failures: Standard's 8-4, nw se ne 21-29-29, Kern Bluff area, sand and shale, abnd 1126 ft.

Pacific Western's Enas Fee 35-A, nw ne sw 21-27-27, Poso Creek area, gray shale, abnd 2200 ft.

Santa Barbara County — Failure: Continental's Davis 1, se sw sw 28-10-33, Santa Maria Valley area, bailed water and tar, Foxen 1025 ft, Sisquoc 1560 ft, Sisquoc Tar sand 1617 ft, Monterey Chert 1642 ft, siltstone and shell, 2560 ft, basement 2739 ft, abnd 2779 ft.

COLORADO

Jackson County—South McCallum Field: Continental's Hoye 4-A, ne ne sw 27 9n-78w, abnd 5498 ft.

COLORADO WILDCAT

Larimer County—Discovery: Amerada and Alder Oil Co.'s Hartshorn 1, se ne sw 15 9n-68w, pump 50 bbls from Muddy 5888-5926 ft, Sundance 6485 ft wtr, Dakota 6112-63 ft wtr, td 6510 ft.

KANSAS

Barton County — Kraft-Prusa: Black-Marshall's Dolechek, c nw sw 24-16s-12w, Pre-Cambrian 3353 ft, abnd 3400 ft.

Barton County—Millard: Phillips' Reginald 1, se sw ne 29-16s-14w, Arbuckle 3459 ft, abnd 3482 ft.

Barton County—Ames: Alco Valve's Robl 2, se sw ne 27-18s-11w, Arbuckle 3340 ft, 1100 gals acid, swab 6 bbls, 2000 gals acid, abnd 3353 ft, pb 3070 ft.

Graham County—SE Morrell: Gulf's Hinman 3, nw ne se 23-9s-21w, Arbuckle 3792-93 ft, swab 28 bbls oil per hr, 2000 gals acid, test 2788 bbls oil 24 hrs, 3795 ft.

Greenwood County — Quincy: Becker & Stewart's McConoughly 1, c w½ se ne 36-24s-12e, sand 1683-86 ft, shot 10 qts, pump 20 bbls, 1686 ft.

Greenwood County—Unnamed: Bert Ash et al's Miller 1, ne ne sw 15-26s-11e, Miss 1872 ft, Miss lime 1908 ft, fill 1200 ft water, abnd 1918 ft.

Leavenworth County—Jarbalo: Sherrod & McLaughlin's Metropolitan Life 2, c se sw 9-10s-21e, Miss 1305 ft, abnd 1315 ft.

McPherson County — Roxbury: Morton Brown's Franz 1, c s½ ne sw 20-17s-1w, Miss 2657 ft, 1000 gals acid, fill up 850 ft wtr, 40 ft oil in 21 hrs, abnd 2686 ft, pb 2670 ft.

Pratt County—Chitwood: Skelly's Inez A. Dowell 1, ne se ne 22-28s-12w, Simpson 4403 ft, 500 gals acid, flow 147 bbls oil 2 hrs, 2½-in, 1,360,000 gas, 4415 ft.

Cities Service's Barker 1, ne sw ne 23-28s-12w, Viola 4349 ft, perf 2000 gals acid, 3,234,-000 gas, td 4568 ft, pb 4431 ft.

Pratt County: Lion-Skelly's Broswood 1, sw nw se 23-28s-12w, Viola 4324 ft, perf 2000 gals acid, 5,800,000 gas, pump 50-60 bbls oil, Simpson 4426 ft, 4426 ft.

Rooks County—Barry: Continental's Hederhorst 1, ne ne nw 11-9s-19w, Arbuckle 3434 ft, swab 200 bbls oil in 2½ hrs, test 3060 bbls oil 24 hrs, 3451 ft.

Russell County—NW Sellens: Mid-Plains' Sellens E 2, sw se se 22-15s-13w, Lansing 3025 ft, 2000 gals acid, pump 109 bbls oil, 3032 ft.

Barber County—Sun City: Pryor & Lockhart's Massey 3, c ne ne 27-30-15w, Lansing 3947 ft, abnd 4446 ft.

Barton County—Feltes: Gulf's Hofmeister 2, c n½ sw nw, Kansas City 3069 ft, 276 bbls, 3340 ft.

Barton County—Eveleigh: Cities Service's Eveleigh 2, ne se se 11-18s-14w, Arbuckle 3409 ft, no shows, abnd 3441 ft.

Barton County — West Silica: Virginia's Drlg Herter A, c sw ne 17-20s-11w, Arbuckle 3303 ft, 480 bbls, 3307 ft.

Butler County — Potwin (semi - wildcat): Adair-Morton & Vicker's Neiman 1, c s½ nw 3-25s-3e, Miss 2751 ft, 75 bbls, 2770 ft.

Cowley County—Smith: B. B. Blair's Durham 1, se nw sw 2-31s-3e, Miss 3070 ft, abnd 3072 ft.

Graham County—Morrel: Continental et al's Trexler 4, se ne nw 15-9s-21w, Arbuckle 3648 ft, 609 bbls, 3675 ft.

Greenwood County — Virgil: Aikman & Braden's Mennonite 6, w½ w½ 11-24s-12e, lime 1732 ft, 35 bbls, 1751 ft.

McPherson County — Crowthers: Westgate Greenland's Burch 1, c se sw se 23-17s-1w, Miss 2801 ft, 436 bbls, 2822 ft.

Pawnee County—Pawnee Rock: J. M. Huber Corp.'s Gustafson 1, ne se se 11-20s-16w, Arbuckle 3774 ft, abnd 3834 ft.

Pratt County—Carmi: Shell's Cooper 1, sw

Wells Completed in United States in Week Ended February 19, 1944

Data preliminary and subject to revision. Revised and more complete data on all completions shown in monthly summary of drilling, published in second issue of each month. More detailed data on wildcats published in third issue of each month.

State or District	FIELD COMPLETIONS: New Wells *Oil	Gas	†Input	Dry	Total	Old Wells Deepened	WILDCAT COMPLETIONS: *Oil	Gas	Dry	Total	ALL COMPLETIONS: This Week	Last Week	Cumulative: This Year	Last Year
Arizona	....	....	....	....	....	....	....	....	....	....	....	....	1	....
Arkansas	1	....	....	....	1	....	....	....	....	....	1	4	21	23
California	26	....	....	2	28	1	1	2	3	6	35	32	238	150
Colorado	....	....	....	1	1	....	1	....	....	1	2	....	4	5
Georgia	....	....	....	....	....	....	....	....	....	....	....	....	....	1
Illinois	....	....	....	....	....	....	....	....	....	....	....	33	250	254
Indiana	....	....	....	....	....	....	....	....	....	....	....	12	46	38
Iowa	....	....	....	....	....	....	....	....	....	....	....	....	....	2
Kansas	7	1	....	5	13	....	....	....	....	....	13	34	272	189
Kentucky	....	....	....	....	....	....	....	....	....	....	....	14	67	27
Louisiana	7	1	....	3	11	1	1	....	3	4	16	5	78	75
North Louisiana	1	1	....	2	4	1	....	....	2	2	7	....	23	31
South Louisiana	6	....	....	1	7	....	1	....	1	2	9	5	55	44
Michigan	....	1	....	5	6	1	....	....	5	5	12	6	80	56
Mississippi	....	....	....	....	....	....	....	....	....	....	....	....	3	9
Missouri	....	....	....	....	....	....	....	....	....	....	....	....	2	2
Montana	11	1	....	....	12	....	....	....	1	1	13	....	40	36
Nebraska	....	....	....	....	....	....	....	....	....	....	....	....	7	9
New Mexico	1	....	....	2	3	....	....	....	3	3	6	3	55	32
New York	15	....	10	....	25	....	....	....	....	....	25	26	173	14
Ohio	3	8	....	6	17	....	....	....	....	....	17	21	101	117
Oklahoma	12	2	2	9	25	4	....	....	3	3	32	20	212	182
Pennsylvania	29	....	14	1	44	....	....	....	....	....	44	49	349	335
Tennessee	....	....	....	....	....	....	....	....	....	....	....	....	1	1
Texas	40	2	....	14	56	3	3	3	28	34	93	101	724	505
E.Tex.Bor. Co.'s	....	....	....	....	....	....	1	....	2	3	3	1	4	1
E. Texas Field	....	....	....	....	....	....	....	....	....	....	....	....	....	1
Rest of E. Texas	1	....	....	....	1	....	....	....	....	....	1	6	39	29
North Texas	9	1	....	4	14	....	....	....	8	8	22	17	159	117
W. Central Tex.	1	....	....	1	2	....	*	....	4	4	6	11	55	43
West Texas	18	....	....	4	22	1	....	....	4	4	27	34	191	109
Tex. Panhandle	3	....	....	....	3	....	....	....	1	1	4	4	25	38
G. Coast, Upper	5	....	....	3	8	2	1	2	1	4	14	4	65	32
G. Coast, Lower	3	1	....	2	6	....	....	....	4	4	10	18	125	71
Southwest Texas	....	....	....	....	....	....	1	1	2	4	4	6	50	52
S. Central Tex.	....	....	....	....	....	....	....	....	2	2	2	1	11	12
West Virginia	2	12	....	1	15	....	....	....	....	....	15	21	142	88
Wyoming	5	....	....	....	5	1	1	....	....	1	7	....	22	25
Total U.S.	159	28	26	49	262	12	7	5	46	58	331	381	2,888	2,319

* Includes distillate wells. † Includes salt water disposal wells.

nw se 28-26s-12w, Arbuckle 4291 ft, 3000 bbls, 4323 ft.

Pratt County — Cunningham: Tidewater's Royse 1, c e½ sw ne 3-28s-11w, Lansing 3504 ft, 864 bbls, 3544 ft.

Pratt County—Chitwood: Lion's J. V. Chitwood 1, sw se se 15-28s-12w, Arb 4577 ft, abnd 4629 ft.

Reno County—Zenith: Stanolind's Johnson 4, c s½ nw se 31-23s-10w, Viola 3704 ft, 247 bbls, 3804 ft.

Cities Service's Masemore 2, sw nw sw 32-23s-10w, Viola 3662 ft, 1349 bbls, 3730 ft.

Reno County—North Hilger: Phillips' Reba 1, sw ne nw 34-25s-4w, Viola 4095 ft, 438 bbls, 4096 ft.

Rice County—Orth: Skelly's Volkland A-4, c e sw nw 27-18s-10w, Quartzite 3145 ft, 124 bbls, 3162 ft.

Rice County — Chase: D R M Dirly Co.'s Gramm E-2, sw ne se 15-19s-9w, Arbuckle 3264 ft, 120 bbls, 3162 ft.

Russell County—Gorham: Witt's Furthayer 4, c e½ sw se 9-14s-15w, Lansing 3016 ft, pay 3040-43 ft, 163 bbls, 3045 ft.

Russell County—Big Creek: Benson & Fred U. T. Smith's Neidenthal 2, c w3 sw ne 23-14s-15w, Arbuckle 3204 ft, 686 bbls, 3212 ft.

Saline County—Hunter: Bay Pet.'s Karber B-1, c nw ne 29-16s-1w, Miss 2620 ft, 120 bbls, 2924 ft.

Stafford County—Unnamed: Richard Sturn's Helen 2, c ne nw 24-22s-12w, Arbuckle 3639 ft, 904 bbls, 3645 ft.

Stafford County—Zenith: Republic Nat.'s O. Volker 1, c e½ ne sw 36-23s-11w, Viola 3688 ft, 3000 bbls, 3721 ft.

Stevens County—Hogoton: Northern Nat.'s Kenoyer 1, sw se sw, 21-32s-36w, Krider 2670 ft, 34,928,000 gas, 2829 ft.

The OIL WEEKLY'S TRADING POST

USED EQUIPMENT FORUM

CLASSIFIED ADS . . . EQUIPMENT . . . SERVICES . . . PERSONNEL

FOR SALE

■ FOR SALE: 1 Emsco Steam Rig Complete 1 Emsco Power Rig Complete both equipped with new 4½" Drill pipe, also a quantity of 2⅞" OD, 3½" OD, 4½" OD and 6⅝" OD Drill Pipe. Other drilling equipment. H. D. BILES, 706 First National Bank Bldg. Fort Worth, Texas.

■ Parkersburg Cable Tool Rig and foundation timbers. Some inexpensive repairs needed. First $50 takes it complete. Ganahl Walker, Rt. 10, Box 72, San Antonio, Texas.

■ For Sale: 1 Clark 120 H. P. drilling engine with reversible clutch. Claud White, Breckenridge, Texas or J. L. Higginbotham, 2514 Commerce St., Dallas, Texas.

■ FOR SALE: (Near Corpus Christi) Production Equipment for four 7100' wells, consisting of 28,000' 2" upset 8 Rd. Thread Tubing. 2 High 500 Bbl. Tanks - 1 Gun-Bbl., 1 National Separator, 4 Complete Xmas Trees w/ Braden Heads, Valves & Fittings, 6000' 2" Line Pipe; 1 - 100 H.P. Twin Superior Compressor w/ 2 sets cyclinders (1 High and 1 Low Pressure), 4 Automatic Intermitters. All this equipment in good serviceable condition. Ceiling Price. Write: Box 781, Aransas Pass, Texas.

■ FOR SALE: 30' x 40' Portable Steel Bldg., newly painted and finished for Oil Show on 30 x 60 space located at Tulsa Oil Exposition Grounds, w/ space lease paid up through next Show period. Will sell building and lease for $2500.00. Write Box 781, Aransas Pass, Texas.

■ FOR SALE: (Ceiling Price) 6900'—⅝" x 25' No. 60 Axelson Sucker Rods w/ Couplings, Elevators and Wrenches. Rods used less than 48 hours for special job. Write: Box 781, Aransas Pass, Texas.

SITUATIONS WANTED

■ Available for employment April First. Can qualify as Tool Pusher, Production Superintendent, or can fit in any branch of Petroleum Engineering. Address: Box 27, c/o The Oil Weekly, Houston, Texas.

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■ Capital Seekers—Interested in raising $25,000 or more for a legitimate project should write to Amster Leonard, Fox Theater Bldg., Detroit 1, Mich.

WANTED

WANTED

GAS RECYCLING PROJECT

By large, independent having available, new, complete compression equipment capable of handling large volume and high pressures. Interested in high pressure wet gas area, good gasoline content, good reserves, sufficient wells already drilled for a recycling operation. Prefer project with gasoline extraction plant already operating but with limited market for residue dry gas. Give all information possible first letter. P. O. Box 1914, Fort Worth, Texas.

WANTED TO BUY

1—Complete Portable Truck-Mounted Oil Country Drilling Unit for structure-core-drilling, made up of a reversible rotary table, multiple speed drawworks and cat head, mud pump, hydraulic pump, collapsible derrick, and power drive from single or dual engines, all assembled and mounted on a 6 x 4 motor truck.

1—6 x 4 heavy duty Motor Truck with dual driving rear axles and with a gross vehicle weight (including payload) of approx. 35,000 pounds, complete with chassis, cab and hood.

1—4 x 2 Motor Truck of approx. 1½-ton rating, complete with chassis, cab and hood. Address: Box 28, c/o The Oil Weekly, Houston, Texas.

NOTICES

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Trading Post Section, THE OIL WEEKLY
P. O. Box 2608 Houston 1, Texas

NORTH LOUISIANA

Concordia Parish—Lake St. John: California Co.'s Pan-American Life Lease Two 1, 5-9n-10e, test 475,000 gas, td 3418 ft.

Caddo Parish—Caddo-Pine Island: W. T. Bell's Robertson 1, se se 33-22n-16w, perf 2475-80, 2440-52, 2442-45, dry and abnd 2507 ft.

Bossier Parish — Sligo: Triangle Drilling Co.'s Schuler A-1, owdd, plug and abnd 5145 ft.

La Salle Parish—Tullos: Arkansas Fuel Oil Co.'s Tremont Lumber Co. A-16, abnd 4851 ft.

Webster Parish — Shangaloo: Navarro Oil Co.'s J. F. O'Bier 1, c ne sw 32-23n-9w, flow 60 bbls 37.9-gr, 13/16-in, tp 40 lbs, cp 200 lbs, Tokio 2979-85 ft.

NORTH LOUISIANA WILDCATS

Caddo Parish — Failures: Barnham and Browning's Browning 1, 2310 s 2313 e n½ nw cor 33-22n-16w, abnd 2489 ft.

Gilbert and Levitt's Boswick 1, ne sw 12-22n-16w, abnd 2751 ft.

SOUTH LOUISIANA

Acadia Parish—North Richie: Continental's Acadia Parish School Board 4, 4250 ft n 2080 ft w of se cor 16-7s-1w, 6-in 8629 ft, perf 8610-18 ft, 140 bbls, 3/32-in, td 8629 ft.

Beauregard Parish—Neale: Atlantic's Frazar 1, 513 ft s 671 ft e of nw cor ne¼ 25-3s-11w, dual comp, 5½-in 11,850 ft, perf 11,600-24 ft, 248 bbls; ¼-in, perf 10,901-24 ft, 292 bbls, ¼-in, td 11,853 ft.

Calcasieu Parish — Vinton: Gulf's Vinton Petroleum 2, 330 ft s&e of nw cor se nw 34-10s-12w, 5½-in 5146 ft, perf 5080-95 ft, 146 bbls, ¼-in, td 5600 ft.

Cameron Parish — East Hackberry: Texas Co.'s State-Lake 35, 6687 ft s 2700 ft e of nw cor sec 13 in Lake, T-12s-9w, abnd 8306 ft.

Jeff Davis Parish—Roanoke: Union Sulphur's Poole 2, 330 ft s 442 ft e of nw cor sw ne 29s 4w, 7-in 8732 ft, perf 8706-09 ft, 140 bbls, 9/64-in, td 8735 ft.

St. Landry Parish—Krotz Springs: Humble's Prince 1, start se cor sec 25, go 1980 ft w on sl sec, th n'ly at ra 660 ft to lcn in 25-6s-6e, ½ mi sw Gulf's discovery, 7-in 10,205 ft, perf 10,128-44 ft, flow 20 bbls 50.5-gr dist hourly, 279,000 gas, ¼-in, shut in, td 10,210 ft.

Terrebonne Parish—Caillou Island: Texas Co.'s State-Terrebonne Bay 9, 7766 ft n 24° 50 mins e fr USCGS Mon "Lou" in T-23s-19e, 7-in 7304 ft, perf 7182-7202 ft, 43 bbls, 9/64-in, td 7649 ft.

SOUTH LOUISIANA WILDCAT

Evangeline Parish—Failure: Danciger Oil & Refining's Bowman-Hicks 1, Beaver prospect, sw ne 4-3s-2w, abnd 9764 ft.

SOUTH LOUISIANA NEW PAY

Plaquemines Parish — West Bay: Gulf's State-West Bay 9, 2165 ft w on nl sec 2 fr ne cor same 330 ft s at ra in 2-23s-30e, 5½-in 10,464 ft, perf 10,442-52 ft, 581 bbls, 3/16-in, td 10,464 ft.

MICHIGAN

Allegan County—Fillmore: Devonian and Langs' Gerrits 1, sw nw sw 12-4n-15w, Traverse lime, pump 10 bbls, td 1521 ft.

Arenac County—North Adams: Ervin Major's Moore 3, sw sw se 22-19n-3e, Dundee lime, pump 54 bbls, td 2980 ft.

Clare County — Hatton: C. W. Teater's Ranch 3, se ne sw 31-18n-4w, Dundee lime, abnd 3940 ft.

Gratiot County—Arcada: Arenac Oil & Gas Co.'s Sherman 1, c sw 27-11n-3w, Stray sand, abnd 965 ft.

Mecosta County — Fork: Mogul Oil Co.'s Wilson 1, c ne se 8-16n-7w, Dundee lime, abnd 3834 ft.

Gulf's Van Syckle 2, s½ nw ne 18-16n-7w, Dundee lime, abnd 3933 ft.

Newaygo County—Woodville: Ohio's Unit 9, c ne 20-15n-11w, Stray sand, gas, td 1160 ft.

Osceola County — Rose Lake: Rose and Bolgers' Bowman 1, c nw nw 5-18n-9w, Traverse lime, abnd 3169 ft.

Sohio's Sherwood 2, s½ se se 36-19n-10w, Traverse lime, pump 36 bbls, td 3171 ft.

Ohio's Howe 2, s½ ne sw 31-19n-9w, Traverse lime, flow 333 bbls, td 3175 ft.

Ohio's Howe 4, se sw sw 31-19n-9w, Traverse lime, pump 32 bbls, td 3146 ft.

Van Buren County—North Bangor: Fisher-McCall's Batka 3, se se nw 9-2s-16w, Traverse lime, flow 176 bbls, td 1014 ft.

Socony Vacuum's Funk 2, nw nw se 9-2s-16w, Traverse lime, pump 10 bbls, td 1016 ft.

Van Buren County — Breedsville: W. H. Clock's Marr 3, se sw se 24-1s-16w, Traverse lime, flow 95 bbls, td 1084 ft.

MICHIGAN WILDCATS

Allegan County—Failures: Muskegon Dev. Co.'s Wilcox 1, sw sw ne 20-3n-13w, Traverse lime 1690 ft, td 1756 ft.

W. S. Cook's Albers 1, nw ne ne 30-4n-14w, Traverse lime, abnd 1740 ft.

Barry County—Failure: Sun's Bowler 1, se nw nw 27-4n-8w, Traverse 2031 ft, Monroe 2370 ft, abnd 2498 ft.

Clinton County—Failure: Bennight and McCutcheon's Culp 1, sw sw sw 17-6n-2w, Dundee 2805 ft, abnd 2847 ft.

Osceola County—Failure: Gordon Oil Co.'s

Strong 1, s½ sw sw 30-19n-10w, Monroe 3675 ft, abnd 3715 ft.

Ottawa County—Failure: Ottawa Oil & Gas Co.'s Bush 1, c sw sw 4-9n-13w, abnd 3036 ft.

MICHIGAN WELL DRILLED DEEPER

Roscommon County: American Drilling Co.'s State A1, s½ sw sw 19-21n-3w, otd 4375 ft, td 5037 ft.

MONTANA

Glacier County—Cut Bank: Glacier Production Co.'s McDougall 5, se ne nw 31-34n-5w, swab 152 bbls Cut Bank sand 2755-2814 ft, 7-in 2755 ft, td 2815 ft.

Glacier Production Co.'s Williams 3, sw ne ne 21-33n-5w, swab 16 bbls Cut Bank sand 2880-2914 ft, shot 60 qts, 7-in 2884 ft, td 2915 ft.

William Norman's Tribal 1, Contract 3, nw nw sw 32-32n-5w, swab 33 bbls Cut Bank sand 2953-3004 ft, 7-in 2900 ft, td 3005 ft.

Toole County—Kevin-Sunburst: Kevin Gas Distributing Co.'s State 3, ne ne ne 36-35n-3w, 1,000,000 gas, Sunburst sand 1255-70 ft, Ellis-Madison 1542 ft.

Glacier County—Cut Bank: Carter Oil Co.'s Tribal 23, sw se 10-35n-6w, swab 108 bbls Cut Bank sand 2970-3024 ft, 7-in 2988 ft, td 3028 ft, 2988 ft.

B. L. Frary's Tribal 2, Contract 7, se se se 14-32n-6w, swab 100 bbls Cut Bank sand 3178-3215 ft, 7-in 3180 ft, td 3232 ft.

C. W. Jeffery's Tribal 1, Contract 10, se se se 23-32n-6w, swab 100 bbls Cut Bank sand 3163-3183 ft, 7-in 3147 ft, td 3197 ft.

R. A. Kulberg's Tribal 1, 209, nw nw ne 25-32n-6w, swab 62 bbls Cut Bank sand 3007-3052 ft, 7-in 3012 ft, td 3054 ft.

Texas Co.'s McCauley 1, c sw sw 19-33n-5w, swab 48 bbls Cut Bank sand 2988-3025 ft, 7-in 3005 ft, td 3037 ft.

Texas Co.'s Mueller 2, c nw sw 2-35n-6w, swab 209 bbls Cut Bank sand 2962-3029 ft, 80 qts nitro, 7-in 3005 ft, td 3031 ft.

Wright & Haggerty's Tribal 2, Contract 5, nw ne nw 32-32n-5w, swab 160 bbls Cut Bank sand 2845-2890 ft, 7-in 2852 ft, td 3232 ft.

Toole County—Kevin Sunburst: Texas Co.'s Bruins 12, sw se ne 10-35n-2w, pump 66 bbls Ellis-Madison 1634-1642 ft, 500 gals acid, 5½-in 1595 ft.

MONTANA WILDCAT

Pondera County—Failure: R. C. Tarrant's Roth 1, se se sw 30-30n-1e, abnd 773 ft.

NEW MEXICO

Eddy County: Nay Hightower et al's Berry 21, 24-17s-27e, pump 12 bbls, 500 gals acid 426-36 ft, td 525 ft, pb 436 ft.

Neil H. Wills et al's Yates 1, 660 ft nsl 554 ft ewl 7-20s-29e, abnd 1057 ft.

S. P. Yates and Martin Yates Jr.'s Evans 3, c nw ne 5-17s-30e, elev 3714 ft, Glorietta 4105 ft, abnd 6587 ft.

NEW MEXICO WILDCATS

Eddy County—Failure: Neil H. Wills et al's Zorichak 2, c se nw 5-20s-31e, anhydrite 567 ft, salt 760 ft, abnd 2420 ft.

Lea County—Failures: Skelly's State 1-V, c ne se 7-22s-35e, elev 3629 ft, anhydrite 1870 ft, salt 2015-3950 ft, brown lime 4000 ft, Yates 4205 ft, abnd 4460 ft.

Gordon M. Cone et al's State-Berry-Superior 1-a, 1980 ft nsl 2080 ft ewl 30-18s-37e, elev 3735 ft, anhydrite 1632 ft, top salt 2673 ft, brown lime 3850 ft, white lime 3910 ft, abnd 4609 ft.

OKLAHOMA

Creek County — Cushing: Northern Ordnance's Raifoot 1, sw nw nw 30-19n-8e, sand 2580-2600 ft, 24 bbls, td 3226 ft, pb 2576 ft.

Garvin County—Pauls Valley: Pure's Teter 15, nw ne nw½ 31-4w-1e, Penn 3969-78 ft, 6,000,000 gas, td 4102 ft, pb 3990 ft.

Pure's Collins-Hickman 4, se sw sw½ 25-4n-1w, Penn 3960-4050 ft, 463 bbls, td 4012 ft, pb 4060 ft.

Ohio's A. W. Hutchins "A" 1, se ne ne 26-4n-1w, salt water well, td 4147 ft, pb 4100 ft.

Hughes County—W. Holdenville: Mid-Continent's Tiger 4, se sw ne 9-7n-8e, abnd 1795 ft.

Jefferson County—Oscar: Metzner's Pennington 6, ne sw sw 16-7s-5w, pump 8 bbls, 790 ft.

Kay County—Vernon: Kan-O-Tex's Sherbon 3, ne nw sw 20-29n-1e, abnd 3485 ft.

Lincoln County—Sac & Fox: Wilcox Co.'s McDaniel 1, nw se sw 3-14n-6e, abnd 4267 ft.

Logan County—Lowell: Champlin's Fry "B" 1, sw se ne 9-19n-4w, Avant 4195 ft, abnd 4203 ft.

Okmulgee County—Norris: Mid-Continent's Alexander 19, sw sw sw 12-13n-13e, 6 bbls, td 1928 ft, pb 1811 ft.

Tulsa County—Glenn: Gulf & Riverland's Berryman 1, sw ne nw 27-18n-12e, 500,000 gas, 1450 ft.

OKLAHOMA

Caddo County—West Cement: Phillips' Margaret 1, ne ne nw 2-5n-10w, Madrano 5980 ft, flow 643 bbls in 8½ hrs, 6106 ft.

Carter County—Tussy: Jones Oil's McCrory 2, se nw nw 5-1s-3w, top lime 2340 ft, abnd 3602 ft.

Carter County: Skelly's Miller 7, nw sw ne 5-1s-3w, sand 2814-20 ft, 2826-34 ft, sand & shale 2934-43 ft, sand 2990-3026 ft, perf 2998-3030 ft, 2930-2995 ft, 2817-2830 ft, pump 62 bbls oil, 3220 ft.

Allied Material's Gray "A" 3, ne se se 9-1s-3w, sand 2648-61 ft, 2665-71 ft, 2674-85 ft, perf 2650-92½ ft, flow 720 bbls, 2723 ft.

Creek County—Slick: S. Lebow et al's Sewell 1, se nw se 27-16n-10e, Dutcher 2637 ft, shot 40 qts, pump 5 bbls, td 2724 ft, pb 2684 ft.

Creek County: Whitfield & Cobb's Ada-Jack 2, se ne sw 27-16n-10e, Dutcher 2646 ft, shot 10 qts, pump 10 bbls, td 2724 ft, pb 2675 ft.

Sinclair Prairie's L. L. Berryhill 57, c se 16-17n-12e, Glenn sand 1411 ft, shot 140 qts, pump 5 bbls, 1567 ft.

Garfield County—Garber: Sinclair Prairie's Hartley 58, c ne nw 18-22n-3w, Hotson lime 1527 ft, sand-lime 1535 ft, pump 6 bbls, 1570 ft.

Garvin County — Pauls Valley: Anderson, Prichard & Pure's C. Maxey 2, nw ne nw 36-4n-1w, Penn 3935-40 ft, Penn 3973-80 ft, Penn 3988-96 ft, flow 205.12 bbls oil, 367,000 gas, ¾-in, td 4075 ft, pb 4040 ft.

Jefferson County—Oscar: Metzner's Pennington 7, sw se nw 16-7s-5w, sand 1975 ft, abnd 2225 ft.

Lincoln County — N. McLoud: Stanolind's Griffey 1, ne se se 9-12n-2e, Wilcox 5685 ft, abnd 5692 ft.

Lincoln County — S. Wilzetta: Amerada's Zimmerman 3, se sw ne 10-12n-5e, Layton 7-in 2290 ft, salt water disposal well, td 3810 ft, pb 2340 ft.

Lincoln County — Chandler: Great Lakes' Gibson 1, sw sw ne 1-14n-4e, Skinner 4237-57 ft, flow 83 bbls oil, 1,500,000 gas, td 5140 ft, pb 4247 ft.

Great Lakes' Chase "C", ne ne nw 3-14n-3e, Oswego 4063 ft, Bart 4394 ft, 4407 ft, abnd 4413 ft.

Muskogee County—Link: Link's Sango 3, nw sw nw 28-15n-15e, 2nd Wilcox 2179 ft, abnd 2233 ft.

Noble County—E. Otoe City: T. N. Berry's Gillham 2A, c s½ se 14-22n-1e, Perry 2936 ft, flow 179 bbls oil, 16/64-in, 2953 ft.

Okfuskee County—Blakey: Sunray's Brook 1, c se 35-12n-10e, Cromwell 3103-30 ft, abnd 3130 ft.

Oklahoma County—Edmond: F. G. & W. J. Fox's Arnold 1, c nw sw 29-14n-4w, Hunton 6870 ft, abnd 6911 ft.

Sohio's Harper 3, c ne ne 31-14n-4w, Hunton 6892 ft, perf casing 1000 gals acid, flow 376 bbls 15¼ hrs, ¼-in, 7232 ft.

Okmulgee County—Brinton: R. W. Vierson's Marshall 2, c se se 9-13n-12e, salt sand 1319-1470 ft, abnd 1470 ft.

Okmulgee County — Pollyanna: Sooner's Thompson 1, ne ne se 29-16n-11e, Tancha 2350-72 ft, abnd 2400 ft.

Okmulgee County—Pickett Prairie: Sooner's Strozier 1, sw se nw 21-16n-11e, Glenn 2003-15 ft, 1,300,000 gas, 2015 ft.

Osage County—Avant: Barnsdall's 15, nw se sw 14-23n-11e, B'ville 1660 ft, show oil, input well, 1702 ft.

Osage County—S. Hickory Creek: Blackwell's 6, ne nw sw 10-28n-11e, sand 947-67 ft, shot 90 qts, pump 8 bbls, 971 ft.

Payne County—Ingalls: Blackwell's Penny 1B, nw nw se 25-19n-4e, Red Fork 3280-96 ft, 4,200,000 gas, td 3761 ft, pb 3330 ft.

OKLAHOMA WILDCATS

Hughes County—Failure: Deep Rock's Lela Fexico 1, nw ne sw 1-6n-10e, td 4660, pb and abnd 4535 ft.

Kay County—Failure: Amerada's Newkirk 1, se se nw 10-26n-3w, Oswego 4230 ft, Simpson 4965 ft, abnd 5017 ft.

Seminole County—Failure: F. P. Lanahan's Collier 3, se ne ne 13-7n-7e, Allen sd 930-75 ft, Wewoka 1100-40 ft, 1st Calvin 1435-65 ft, 2nd Calvin 1610-30 ft, 3rd Calvin 1570-1625 ft, abnd.

OKLAHOMA WELLS DEEPENED

Creek County—Pickett Prairie: C. D. Klingensmith's Delozier 5, se se sw¼ 5-16n-11e, otd 2144 ft, td 2163 ft.

Creek County—Glenn: Sinclair Prairie's J. F. Berryhill 15, ne nw ne 16-17n-12e, otd 1562 ft, Glenn 1536-60 ft, td 1580 ft.

Creek County: Sinclair Prairie's Keifer 6, ne ne se 17-17n-12e, otd 1419 ft, Glenn base 1563 ft, td 1570 ft.

Creek County — Turkey Mountain: A. D. Whitten's Jack 1, sw nw se 8-18n-12e, otd 663 ft, Taneha 1462-85 ft, td 2160 ft, pb 2105 ft.

WEST TEXAS

Andrews County—Embar-Ellenburger: Phillips' University-Andrews 50, 664 ft snl 678 ft ewl sec 29, blk 10, elev 3247 ft, Ellen 7725 ft, granite 7805 ft, flow 1488 bbls, ½-in, 1000 gals acid perf 7775-7800 ft, td 7857 ft.

Phillips' University-Andrews 56, c se ne sec 25, blk 10, elev 3264 ft, flow 948 bbls, ½-in, 2500 gals acid Ellenburger perf 7930-60 ft, td 7983 ft.

Andrews County — Fullerton: Frank & George Frankel's University 1-A, c ne ne sec 17, blk 13, elev 3313 ft, San Andres 4370 ft, flow 511 bbls, 1¼-in, 24,000 gals acid 6849-7078 ft.

Andrews County—Mascho: Superior of Cal.'s Lockhart-Brown 2-A, 560 ft nsl 2101 ft ewl PSL 17, blk A-42, flow 420 bbls, 11/64-in, shot 540 qts 4330-4630 ft.

Andrews County—North Cowden: Atlantic-Sun's Holt 8-C, c sw ne T&P 7, blk 43, T-1-N, pump 307 bbls, shot 275 qts 4540-4660 ft.

Cochran County—Slaughter: Devonian et al's Duggan 41-A, 560 ft snl 510 ft ewl lab 4, Lge 55, Oldham CSL, flow 596 bbls, 12,000 gals acid 4961-5002 ft.

Devonian et al's Duggan 24-B, 560 ft nsl 510 ft wel lab 23, Lge 55, Oldham CSL, flow 1142 bbls, 12,000 gals acid 5012-51 ft.

Crane County — McElroy: Brown-Hancock-Hines Oil Corp.'s University 2, se sw se sec 45, blk 30, pump 283 bbls, shot 300 qts 2882-2992 ft.

Crockett County — Soma - Noelke: Moore Bros. & Olson Oil Co.'s Noelke 2, 990 ft snl 330 ft wel sec 60, blk GG, W. T. Mullins sur, pump 165 bbls, 1582-1635 ft.

Ector County—Foster: M. B. K. Dr. Co.'s Gist 1-E, 2313 ft snl 2292 ft wel T&P 9, blk 42, T-2-S, pump 279 bbls, shot 125 qts 4410-50 ft.

Hockley County — Slaughter: Honolulu's Slaughter 11-A, c lab 5, Lge 40, Maverick CSL, flow 779 bbls cas, 11,000 gals acid 4880-4976 ft.

T. F. Morrow et al's Mallet 64, c lab 20, Lge 48, Edwards CSL, flow 867 bbls, 10,000 gals acid 4885 4941 ft.

Whittington Bros.' McRae 1, 440 ft out nw cor lab 32, Lge 40, Maverick CSL, flow 831 bbls, 10,000 gals acid 4960-97 ft.

Howard County—Iatan-East Howard: Bond Oil Corp.-L. C. Harrison's Texas L & M Co. 1, 1672 ft wel 1662 ft snl T&P 8, blk 30, T-1-S, pump 192 bbls, shot 330 qts 2745-2830 ft, td 2869 ft.

Mitchell County—Westbrook: Col-Tex Ref. Co.'s Abrams-T. P. Land Trust 11, 993 ft nsl 2326 ft ewl T&P 33, blk 28, T-1 N, pump 118 bbls, shot 800 qts 3004-3105 ft.

Col-Tex Ref. Co.'s Graeber 4, 999 ft nsl 1671 ft wel T&P 22, blk 28, T-1-N, jkd and abnd 2944 ft.

Pecos County—Apco: Humble's Gregg 4, 660 ft fr sel swl H&GN 101, blk 10, elev 2451 ft, Ellen 4450 ft, flow 438 bbls, 11/64-in, 1000 gals acid perf 4525-4725 ft, td 4750 ft.

Pecos County—Toborg: Stanolind's Tippett 26-B, 330 ft s 922 ft w of sw cor sec 539, but in GC&SF Ry. 61, blk 194, abnd 400 ft.

Scurry County—Northwest: A. L. & C. L. Wasson's Chapman-Magnolia 2, sw ne nw H&TC 100, blk 97, pump 65 bbls, shot 110 qts 1720-75 ft, 1787 ft.

Scurry County—Sharon Ridge: D. & R. Oil Co.'s Van Norman-Shell 2, c ne nw H&TC 131, blk 97, pump 67 bbls, shot 720 qts 2215-2350 ft, 860 qts 2875-2985 ft, 3256 ft.

Ward County—Gulf-O'Brien: L. L. Horne Oil Co.'s Sealy-Smith-Sinclair 1, nw nw se G&MMB&A 96, blk A, abnd 3150 ft.

Winkler County—Weiner: Sun's Halley 6-B, c sw nw PSL 4, blk B-11, abnd 3163 ft.

WEST TEXAS WELL DEEPENED

Winkler County — Keystone - Holt: Sid W. Richardson & Bass' Walton 3, 440 ft nsl 330 ft wel PSL 1, blk B-3, otd 3550 ft, elev 2964 ft, Clear Frk 4780 ft, flow 184 bbls 38.4-gr, 925/1, 20/64-in, 1050 gals acid 4716-24 ft, 4850 ft.

WEST TEXAS WILDCATS

Garza County—Failure: M. L. Richards and R. E. Carter's Stoker 1, sw se nw GH&H Ry. 32, blk 5, abnd 2910 ft.

Irion County — Failure: Humble's Sawyer Cattle Co. 2-B, 1980 ft snl 1320 ft wel sec 3, O. G. Coulson sur A-60, elev 2372 ft, Yates 900 ft, Ellenburger 8960 ft, abnd 9501 ft.

Mitchell County—Failure: Shamrock O&G Corp.'s Ellwood-Gulf 1, c nw ne S. P. Ry. 19, blk 17, elev 2227 ft, San Angelo 1954 ft, Ellen 7960 ft, abnd 8125 ft.

Pecos County—Failure: Ungren & Frazier's Nutt-Phillips Pet. Co. 1, 1980 ft snl 660 ft wel T. & St. L. Ry. 17, blk 125, elev 2897 ft, 1st lime 1690 ft, solid lime 1855 ft, abnd 2440 ft.

WEST CENTRAL TEXAS

Coleman County: Central Texas Gas Co.'s Horne 1, 660 ft out se cor, A. S. Robinson sur No 56, A-811, abnd 1140 ft.

Jones County—Strand: J. C. Hunter & Son's Pardue 1, 553 ft out sw cor, n-181 ac of s-343 ac of H&TC Ry. 6, blk 5, flow 128 bbls, 2-in, 130 gals acid Palo Pinto 3404-10 ft.

WEST CENTRAL TEXAS

Coleman County — Failure: H. F. Wilcox O&G Co.-E. J. Cunningham's Roberts 1, 330 ft out ne cor nw, G. H. Gibbs sur No 154, elev 1709 ft, abnd 2358 ft.

Jones County—Failure: Thos. D. Humphrey"s Bates 2, 990 ft snl 2970 ft wel s½ BBB&C sec 34, abnd 2698 ft.

Shackelford County—Failures: C. A. Montgomery et al's G. W. Norton 2, 1600 ft fr nwl 1140 ft fr swl TE&L Co. sec 567, abnd 542 ft.

W. K. Wood et al's Simpson 1, 150 ft out ne cor s½ nw Blind Asylum Lands sec 13, abnd 530 ft.

SOUTHWEST TEXAS WILDCATS

Jim Hogg County—Failure: M. L. Massingill & W. H. Spice's Allen & Hellen 1, blk 8, H&GN sur 23, 1000-ac lse, abnd 3510 ft.

LaSalle County — Failure: Charles E. Fraser's Reed 1, 160-ac lse, nw¼ H&GN sur 159, 6 mi sw Washburn field, abnd 5719 ft.

SOUTHWEST TEXAS NEW PAYS

Duval County—Agua Prieta: Taylor Refining Co.'s Sepulveda 1-B, 660 ft fr n&wl 199-ac lse, BS&F sur 297, 5½-in 4155 ft, perf 4066-71 ft, 120 bbls, ½-in, td 5210 ft.

Zapata County—Lopena: Venture Petroleum

Corp.'s San Juana de Vela 1, 660 ft fr sw 1262 ft fr se&nwl blk 1, Jamison subdvn, porc 21, 670-ac lse, 7-in 2752 ft, perf 2515-50 ft, 10,500,000 gas open, td 2580 ft.

SOUTH CENTRAL TEXAS WILDCATS

Kendall County — Failure: C. G. Hamill's Fee 1, 3000-ac lse, BS&F sur 873, 6 mi sw Boerne, abnd 2405 ft.

Wilson County—Failure: M. L. Marshall's Sanders 1-A, Lavernia area, 40-ac lse, J. F. Herrera Lge 6, pumper some oil, temp abnd 1160 ft.

LOWER TEXAS COAST

Bee County—South Caesar: Midstates Oil Corp.'s Cotton 1, 467 ft fr nl 482 ft fr el s 52-ac of 92-ac Simmons lse, Thomas Powell sur, 5½-in 6632 ft, perf 6476-6515 ft, flow 15,000,000 gas, 3/32-in, td 6633 ft.

Nueces County—Petronilla: Stanolind's Gillett 2-A, 843 ft fr wl 448 ft fr nl 330 ft fr el w 40-ac lse, sec 7, Roberts & White subdvn, Canutillo Colony Ditch Company sur, 7-in 8249 ft, perf 7321-23 ft, flow 113 bbls, ⅛-in, td 8350 ft.

Nueces County—Richard King: Earl Callaway's Morgan 1, 5822 ft fr el 467 ft fr sl blk 6, Richard King farm lots, Casa Blanca Gr, abnd 5880 ft.

Refugio County — North LaRosa: P. R. Rutherford-Royal Oil & Gas Corp.'s Oppenheimer Est 2, 2600 ft fr nl 2635 ft fr wl 467 ft fr sl sec 36, Johnson & Pugh sudbvn, abnd 6338 ft.

San Patricio County—East White Point: Republic Natural Gas Co.'s Rachal 48, 950 ft sw of Rachel 28, 1482-ac lse, M. M. Flores Gr, 5½-in 5715 ft, perf 5595-5600 ft, 84 bbls, ⅛-in, td 5848 ft.

Willacy County — Willamar: Standard of Kansas' Bucy 2, 467 ft fr n&el of n 100-ac of 191-ac tr, Olivares Rch subdvn share 12, San Juan de Carricitos Gr, 5½-in 7935 ft, perf 7884-7901 ft, 7911-27 ft, 126 bbls, ⅛-in, td 7935 ft.

LOWER TEXAS COAST WILDCATS

Bee County—Failures: Bridwell Oil Co.'s Huddleston 1, 1485 ft fr wswl 2475 ft fr nwl of 540-ac lse sec 6, Anna Burke sur, abnd 4306 ft.

Texas Co.'s Cook 1, 75-ac lse, Henry Coley sur, 1 mi nw Mineral, abnd 7615 ft.

Goliad County—Failure: Continental's Couret 1, 190-ac lse, Dona Maria Jesus Ybarbo Gr, 11 mi nw Goliad, abnd 9130 ft.

Jackson County — Failure: W. Stewart Boyle's Hutcheson 1, 71-ac lse, Nestor Clay sur, 6 mi sw Ganado, abnd 6010 ft.

TEXAS GULF COAST

Chambers County—Fig Ridge: C. M. & V. W. Frost's Fee 4, 467 ft fr n&el se nw sec 95, HT&B sur, 5½-in 8570 ft, flow 243 bbls, 10/64-in, td 8582 ft.

Sun's Federal Lank Bank 1, 1800 ft fr el 800 ft fr sl sec 81, 640-ac lse, TNO sur, n exten, 5½-in 8633 ft, perf 8588-94 ft, 319 bbls, 12/64-in, td 8633 ft.

Chambers County—Stowell: Gulf's Woods-Ruidenga Unit 1, 496 ft fr sl 504 ft fr el lot 9, Koch subdvn, L. Lopez sur, dual comp, 5½-in 7820 ft, perf 7807-18 ft, 386 bbls, 7/32-in; perf 7640-64 ft, 449 bbls, ¼-in, td 7820 ft.

Fayette County—Cistern: Continental's Gabitsch 2, 462 ft fr el 1350 ft fr nl lse, abnd 3036 ft.

Fort Bend County — Thompson: Cecil V. Hagen's Wolters 2, 1602 ft fr sl 466 ft fr el 100-ac lse, abnd 5448 ft.

Harris County—Dyersdale: Trull, Gregg & Thompson's Marshall-Merrem-Griffith 1, 20-ac unit, lots 2, 3, 4, 5, blk 12, Houston suburban heights subdvn, 5½-in 4111 ft, perf 4080-84 ft, set screen 4080-90 ft, 92 bbls, ⅛-in, td 4111 ft.

Jefferson County—Stowell: Glenn H. McCarthy's Brannon 1, 50 ac lse, B. A. Vacocu Lge, Koch subdvn, abnd 9495 ft.

Wharton County — Menefee: Salt Dome's Menefee 2, 80-ac lse in nw cor tr 6, S. P. Middleton sur, 5½-in 4618 ft, perf 4536-51 ft, flow 5,620,000 gas, 3/8-in, td 4618 ft.

TEXAS GULF COAST WILDCATS

Chambers County — Gas Discovery: Wynn Crosby Drilling Company's Mayes 1, 40-ac unit nw cor, Robert Oliver sur, 5½-in 8225 ft, perf 8082-88 ft, flow est 200,000,000 gas open, td 8434 ft.

Fayette County—Failure: R. T. Wilson's Levien 1, 96-ac tr, James Winn Lge, 1 mi n Round Top, abnd 5526 ft.

Fort Bend County—Flank Discovery: Phillips' Robinson 5, 293 ac tr, 160 ft fr sl 662 ft fr el lot 14, Duff & Robinson subdvn, Blue Ridge field area, 5½-in 4166 ft, t/sand 3868 ft, perf 3868-73 ft, 186 bbls, 3/16-in, td 4475 ft.

TEXAS GULF COAST NEW PAY

Austin County—Raccoon Bend: Pan American Production Co.'s Austin College 1, 160-ac lse, William C. Harvey sur, 5½-in 7685 ft, perf 7298-7308 ft, flow est 150,000 gas, 3-4 bbls oil, 40/64-in, td 9515 ft. Opens Wilcox pay on sw flank.

TEXAS GULF COAST WELLS DEEPENED

Chambers County — South Anahuac: Salt Dome's Ogden 1, 358 ft fr n&wl 466 ft fr el e 20-ac of 31-ac tr, td 8419 ft, redrill 9050 ft, 5½-in 9050 ft, perf 8998-9040 ft, 13,020,000 gas, ½-in & some dist.

Liberty County: American Republics Corp.-Houston Oil's 152, 1650 ft fr el 1270 ft fr sl lse, redrill 2517-3060 ft, 7-in 2520 ft, perf 2498-2505 ft, pumped 6 bbls day.

EAST TEXAS

Wood County—Quitman: Hunt Oil Co.'s Taylor 1, 330 ft out nw cor 48½ ac lse, H. Anderson sur, elev 423 ft, Georgetown 5004 ft, Paluxy 6229 ft, oil sand (broken) 6261-6334 ft, flow 858 bbls, ¼-in, natural, perf 6309-15 ft, td 6357 ft.

EAST TEXAS BORDER WILDCATS

Panola County — Discovery: Continental's Burnett 1, J. F. Chears sur, 2 mi s of Carthage prodn, dual completion, Pettit lime, 7,730,000 gas, 96 bbls distil, perf 5695-5735 ft, 1500 gals acid; Hill of Rodessa series, 8,000,000 gas, 144 bbls distil, perf 4955-4985, td 9306 ft.

Marion County—Failure: L. M. Bradford and Herschel Scivally's Meyers 1, 3 m w of Rodessa field, Miles Reed sur, elev 262 ft, Dees 6311 ft, Gloyd 6207 ft, Henderson 6174 ft, Hill 6084 ft, abnd 6328 ft.

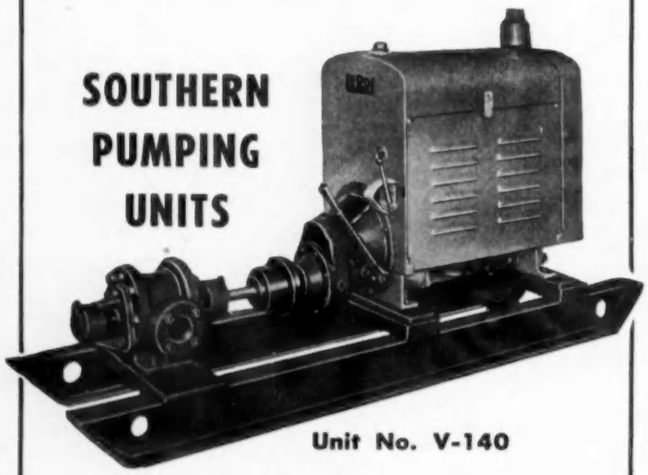
Nacogdoches County — Failure: Texaco's Pruitt 1, Ariola sur, tested Travis Peak, abnd 8800 ft.

TEXAS PANHANDLE

Carson County: Skelly's Schafer 178, 1320 ft snl 440 ft wel ne I&GN 196, blk 3, pump 256 bbls, shot 240 qts 3115-65 ft.

Hutchinson County: Cree & Hoover's Haile 13, 1650 ft nsl 450 ft elw w½ E. L. Ry. 15, blk 1, pump 113 bbls, shot 110 qts 2945-86 ft.

Skelly-Cabot Carbon Co.'s Herring 14-A, 6286 ft snl 2862 ft ewl of e-3011 ac of, E. Almaguie sur, pump 84 bbls, 16 bbls wtr, shot 360 qts 3032-90 ft, td 3215 ft, pb 3100 ft.



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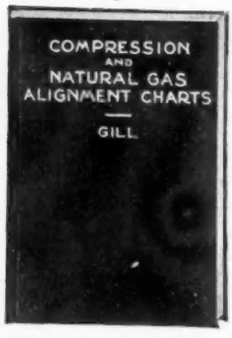

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TEXAS PANHANDLE WILDCAT

Oldham County—Failure: Stanolind's Green 1, c ne nw sec 36, Lge 320, CSL, elev 3730 ft, granite 6080 ft, abnd 6114 ft.

NORTH TEXAS

Archer County: M. W. Blair Oil Co.'s Henry 6, 1000 ft snl 3190 ft wel sec 35, blk 5, Clark-Plumb sur, abnd 1164 ft.

M. W. Blair Oil Co.'s Henry 7, 1600 ft snl 515 ft ewl sec 35, blk 5, Clark-Plumb sur, pump 75 bbls, 927-34 ft.

J. A. McCarty & J. P. Coleman's Taylor 3-A, 330 ft out ne cor lot 2, ATNCL sec 13, Bend 4644 ft, Miss 4924 ft, Ellen 4960 ft, pump 41 bbls oil, 10 bbls wtr, 4999-5006 ft.

Clay County: Texas Co.'s Goetze 5, 200 ft fr swl 1320 ft fr sel lt 2, Thornberry subdvn, pump 19 bbls, shot 3 qts 1073-76 ft, td 1130 ft.

Cooke County: Bridwell Oil Co.'s Campbell 7, 2100 ft snl 4900 ft wel, O. F. Leverett sur, pump 25 bbls, 715-29 ft.

Jack County—Ellis: Hanlon & Buchanan's Ellis-DuBose 6-B, 1587 ft snl 1758 ft ewl lot 5, J. W. Williams sur, Bend 4752 ft, flow 475 bbls, 16/64-in, 4752-77 ft.

Montague County—Hildreth: Continental's Roye 1, 994 ft nsl 330 ft ewl, A. G. Crowell sur, sec 54, Bend 6116 ft, Barnett 6430 ft, flow 773 bbls, ½-in, natural, perf 6160-86 ft, td 6480 ft.

Montague County—Ketchum: Ernest L. Wilson et al's Heard 1, 467 ft out of w cor Hill CSL sec 44, abnd 3402 ft.

Wichita County: H. S. Grace et al's Willis 1, 150 ft nsl 250 ft wel of 250-ac tr, W. H. Anderson sur A-1, abnd 600 ft.

Magnolia's Schomker 48, 959 ft snl 1019 ft ewl sec 24, Red River V. F. Lands, pump 2 bbls, 1752-69 ft.

Young County: Christie Bros.' Primitive Baptist Church 2, 299 ft fr swl 900 ft fr nwl, J. C. Brown sur A-39, flow 80 bbls, ½-in, shot 120 qts 3777-3826 ft.

Young County—Edmonds: Anderson-Prichard-Col-Tex Ref. Co.'s Donnell 3, 1700 ft s 3361 ft e of nw cor of 1046-ac tr, M. Edmonds sur, abnd 3718 ft.

Young County—Padgitt: Shell's Bullock 2-D, 510 ft snl 860 ft ewl TE&L sec 344, Miss 4759 ft, flow 84 bbls oil, 55 bbls wtr, 2-in, 500 gals acid 4762-4803 ft.

Young County—Sewell: Shell's Bridwell 1, 520 ft nsl 330 ft wel sec 1, Indianola Ry. sur A-156, 5,600,000 gas, Bend 3918-40 ft.

NORTH TEXAS WILDCATS

Archer County—Failures: M. W. Blair Oil Co.'s Conrady 1, 600 ft snl 200 ft wel sec 22, blk 4, Clark-Plumb sur, abnd 1161 ft.

M. W. Blair Oil Co.'s Wilhelm 1, 800 ft nsl 2000 ft ewl TE&L sec 2420, abnd 1426 ft.

W. W. Harvey et al's T. B. Wilson 1, 1740 ft nsl 1680 ft wel sec 151, Harris Club Ranch, abnd 1413 ft.

Frank Wood et al's Abercrombie-Taylor 1, 150 ft nsl 550 ft wel sec 82, Harris Club Ranch, abnd 1385 ft.

Cooke County—Failures: J. D. Cavaness et al's Kubicek 1, 1041 ft nsl 941 ft ewl of 174-ac tr, John Gregg sur A-397, abnd 1768 ft.

R. W. Fair et al's Streng 1, 900 ft fr swl 330 ft fr sel S. P. Ry. sec 15, A-975, Ellen 2619 ft, abnd 2670 ft.

Jack County—Failure: Jack Pot Oil Co.'s Bloodworth 1, 6700 ft nsl 4649 ft wel, J. B. Irvine sur A-312, abnd 3557 ft.

Young County — Failure: Auto Ordnance Corp. & Hooper-Byrne Co.'s Dozier 1, 2150 ft fr nel 467 ft fr nwl, C. P. Heartt sur A-131, Bend 3768 ft, Miss 4638 ft, Ellen 4755 ft, abnd 4914 ft.

WYOMING

Park County—Elk Basin: Ohio's Well 12 on Elk 9, ne nw sw (Montana Side) 35-9s-23e, flow 1032 bbls, Tensleep 4430 ft, Embar 4294 ft, Dakota 2785 ft, 5½-in 4550 ft, td 4611 ft.

Ohio's Well 17 on Woods 3, ne sw ne 30-58n-99w, flow 1440 bbls, Tensleep 4524 ft, Embar 4488 ft, 5½-in 4688 ft, td 4755 ft.

Park County—Oregon Basin: Ohio's Sonners 4, Acct 1, nw sw nw 8-51n-100w, pump 90 bbls Tensleep 3638 ft, 20% wtr, 5-in 3638 ft, perf 3638-53 ft, owdd fr 3534-3685 ft.

Hot Springs County—Hamilton Dome: Argo Oil Corp.'s Ellen 20, se se nw 14-44n-98w, pump 120 bbls Tensleep 2776 ft.

Park County—Oregon Basin: Ohio Oil Co.'s Cactus A-2, se se se 6-51n-100w, pump 125 bbls Tensleep 3516 ft.

Ohio Oil Co.'s Sonners 2, Acc't 1, c sw se 8-51n-100w, pump 145 bbls 3900 ft, 5½-in 3860 ft, perf 3702-20 ft.

WYOMING WILDCAT

Park County—Discovery: Fred Goodstein's Government 1, ne ne nw 13-47n-100w, pump 140 bbls 4965 ft Tensleep.

☆

WELDON B. HILL has joined the staff of the Independent Petroleum Association of America, with headquarters at Tulsa, as managing editor of the association's magazine, The Independent Monthly. Hill was formerly oil editor of the Houston Post, with which paper he had been associated since 1935.

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United States Wildcat Starts

ARKANSAS

Little River County: Leo Ochsenbein's Ada Mills 1, c ne se ne 35-11-20, rig.

Union County: John C. Schmidt's Mary M. Tyron 1, ne se se 21-17-14, lcn.

CALIFORNIA

Glenn County: Superior's Capay Grant Comm. 1, se ne ne 13-21-2, Ord Bend area gas test grade.

Kern County: Texas Co.'s K.C.L. 1, ne sw ne 26-29-27, Fruitvale area, mim.

San Luis Obispo County: Los Nietos Co.'s Scott 2, 613 ft s 370 ft e n cr Lot 70 Scott ppty, Edna area, lcn.

San Joaquin County: Richfield Oil Corp.'s East Stockton 2, ne sw ne 6-1-9, Stockton area, gas test, lcn.

Tehama County: Richfield's Gallatin 1, se sw se 26-25-3, Corning area, mim.

Tulare County: Continental's 1-11-1, nw ne ne 11-23-27, Terra Bella area, mim.

Continental's 1-11-2, ne ne ne 11-23-27, Terra Bella area, lcn.

Continental's 2-35-1, ne sw ne 35-22-27, Terra Bella area, lcn.

Ventura County: Pacific Western Corp.'s Temescal 16, 1905 ft s 174 ft e intersec Twshp 4N and w/l Rancho Temescal, Piru area, lcn.

COLORADO

Larimer County: Amerada and Alder Oil C.'s Galvin 1, se se sw 15-9n-68w, Clark's Lake dist, mixt.

ILLINOIS

Clark County: L. D. King's R. McKee 1, ne se ne 8-9n-13w, dr.

L. H. Jansen's Carpenter 1, nw nw nw 9-9n-12w, dr.

Gallatin County: Cherry & Kidd's Allen Grey Heirs 1, ne ne se 15-9s-10e, lcn.

Richland County: Sun's Perry L. Burgener 1, se se se 28-4n-14w, dr.

Washington County: H. H. Hubbard's Theo. Kitowski 1, sw nw nw 22-3s-2w, lcn.

Wayne County: Ryan Oil Co.'s Owen-Wilhones Comm. 1, nw ne 11-3s-6e, lcn.

White County: C. E. Brehm et al's Seal-Fulkerson Comm. 1, nw se nw 15-6s-10e, lcn.

INDIANA

Gibson County: Superior's E. J. Lewis 1, nw sw ne 36-2s-12w, dr.

Posey County: J. T. Reinsel's E. Petty 1, c sw ne 22-2n-6w, lcn.

KENTUCKY

Butler County: G. P. Gill's Robert Foster 1, 25-H-33, lcn.

Henderson County: Wood et al's McAvoy 1 (3), 20-Q-21, dr.

NORTH LOUISIANA

Caddo Parish: Joe M. Burnham's Noel 1, sw ne 11-19n-16w, lcn.

Caldwell Parish: Shell's Louisiana Central Lumber Co. et al 1, c sw sw nw 31-15n-3e, lcn.

SOUTH LOUISIANA

Cameron Parish: Humble's State 1, lease 568, Deep Lake area, 660 ft s 668 ft e of nw cor sec 30, Rockefeller game preserve, lcn 12,000-ft test.

MICHIGAN

Calhoun County: L. H. Vaughn's Fee 1, se nw se 9-3s-4w, lcn.

Kalamazoo County: Harris Oil Co.'s Drobney 1, sw sw sw 31-1s-12w, dr.

Fisher-McCall Oil Co.'s Bishop 1, nw nw nw 5-2s-12w, lcn.

MONTANA

Pondera County: Hannah Porter's Marceau 1-A, nw se nw 3-31n-6w, Southwest Cut Bank, ru.

Teton County: Union Oil Co.'s William Asmus 1, cel ne nw 4-23n-2w, Teton Ridge, lcn.

Toole County: Agen, Cobb, Hardrock Co.'s State 1, sw se nw 36-36n-1e, Sweetgrass Hills, lcn.

OKLAHOMA

Grady County: Ohio's Hemphill 1, ne nw sw 18 5n-8w, rig corners.

Kay County: J. E. Crosbie's A Kay-State 1, ne sw sw 16-29n-3e, 10 in 104 ft, wot.

Lincoln County: Mid-Continent - Atlantic's Kirchmeier 1, se nw nw 9-12n-5e, mim.

Oklahoma County: Sohio's Williams 1 "B", se sw 7-14n 4w, lcn.

F. C. Hall's Frank McKee 1, nw sw 23-14n-4w, rog.

Osage County: Peters & Seismo Service Corp.'s Osage 1, ne nw ne 7-22n-8e, dr 690 ft.

Stephens County: Sohio's Franklin 1, c ne sw 20-1n-8w, mit.

Tillman County: Miller & McCormick, nw nw ne 23-1n-18w, mach spud 20 ft, sd for rt.

WEST TEXAS

Andrews County: Texas Co.'s E. B. Jones 1, c nw nw PSL 21, blk A-36, mim 5900-ft test.

Crockett County: Phillips' Wm. Schneeman 1, s ne nw T. C. Ry. 46, blk BB, lcn 9000-ft Ellenburger test.

Dickens County: Seaboard Oil Co.'s Pitchfork Land & Cattle Co. 1, c ne nw Indianola Ry. Co. sec 93, lcn 5500-ft test.

Gaines County: Sid Richardson et al's R. A. Cox 1, c ne sw W. T. Ry. 148, blk G, lcn Clear Fork test.

Howard County: Continental-Group 1 Oil Corp.'s W. R. Settles 1-D, ne sw nw W&NW Ry. 133, blk 29, lcn 11,000-ft Ellenburger test.

Lubbock County: Smith - Griggs Oil Co.'s Frank Griggs 1, c ne ne E. L. & R. R. Ry. 44, blk P, lcn 6500-ft Clear Fork test.

Pecos County: Dave Breeding et al's Cordova-Union (Atlantic) Oil Corp. 1, c ne nw T. & St. L. Ry. 2, blk 141, lcn 2100-ft test.

Standard of Texas' MacDer Co. 1, lse 3, c sw sw H&GN 64, blk 11, Ellenburger test, sp with machine.

WEST CENTRAL TEXAS

Brown County: R. L. Orand et al's E. D. Sheffield 1, 160 ft nsl 894 ft wel, R. Overton sur No 7, A-1116, lcn 1000-ft test.

Taylor County: West Central Texas Dr. Co.-Ungren & Frazier's Jessie Brown 1, 330 ft out nw cor of 217-ac tr, David T. Bruce sur No 135, lcn 2700-ft test.

LOWER TEXAS COAST

Brooks County: Sun's Cage 5, 857 ft fr nl 2640 ft fr wl Mar-Tex RR sur 669, 3 mi ne Scott & Hopper field dist, lcn.

Goliad County: Netherland Cab Co.'s Fromme 1, Weser area, 83-ac lse, Thomas Hancock Lge, lcn 8500-ft test.

Jim Wells County: Smith & Mosser's Brieger 1, 80-ac lse, SA&MG sur 125, Orange Grove area, lcn 5100-ft test.

SOUTHWEST TEXAS

Webb County: Dulup Oil Co.'s Bruni 1, 330 ft fr s&el blk 7, sur 835, 10 mi s Mirando City, lcn 1800-ft test.

SOUTH CENTRAL TEXAS

Bexar County: Frost National Bank's Fee 1, 212-ac lse, G. Rodriguez sur 13, lcn 600-ft test.

TEXAS GULF COAST

Fayette County: Continental's Adamcik 1, 500-ac lse, Thomas Thompson Lge, 4 mi nne Cistern, lcn 4500-ft test.

San Jacinto County: Navarro Oil Co.'s Roberts Company 2, 260-ac lse, Uriah Gibson sur, 3 mi sw Shepherd & ½-mi se Navarro's Roberts 1, 9257 ft dry hole, lcn 9300-ft test.

EAST TEXAS

Cherokee County: American Liberty Oil Co.'s Cobb-Holman Lumber Co. 1, 660 ft out nw cor of 160-ac lse, J. M. George sur, 2 mi s Ironton, lcn Woodbine test.

Hunt County: Humble's E. M. Anderson 1, 728 ft snl 750 ft ewl of 101-ac tr, or 4150 nsl 4540 ft ewl, Juliet Porter sur, lcn Smackover lime test.

Lamar County: Cosden Pet. Corp.'s W. T. Adams 1, 165 ft out ne cor of 10-ac lse, J. K. Gibson sur, 1 mi s Daught, lcn 5000-ft test.

EAST TEXAS BORDER

Marion County: C. C. Hall's Montgomery 1, Johnson sur, 5 mi w of Jefferson and w of Rodessa, dr to Travis Peak, lcn.

Panola County: Arkansas Louisiana Gas Co.'s Pickle 1, G. N. Graves sur, 5 mi sw of Carthage, dr to Travis Peak, lcn.

Continental's Burnett 2, Chealrs sur, 1¾ mi w of Burnett 1, discovery well, lcn.

Rusk County: Sinclair Prairie's Markey 1, Merritt sur, ne of Henderson, dr at 2500 ft.

Rusk County: (Henderson field outpost) Beacon Refining Co.'s Busby 1, Allen sur, 4 mi nw of Henderson, lcn.

NORTH TEXAS

Cooke County: W. F. Russell et al's J. A. Wylie 1, 3150 ft nsl 2450 ft wel, Thos. Cooke sur A-258, lcn 2000-ft test.

Texas Co.'s J. Walterscheid 1-B, 3130 ft snl 2000 ft wel, John Barnett sur A-42, lcn 2000-ft test.

Young County: Northern Ordnance's H. C. McBrayer 1, 450 ft nsl 1701 ft ewl TE&L Co. sec 1907, lcn 5200-ft Ellenburger test.

Bruce Sullivan et al's R. B. Perry 1, 467 ft nsl 933 ft wel TE&L Co. sec 708, lcn 5000-ft Ellenburger test.

Texas Mid-Continent To Meet in Houston

The silver anniversary meeting of the Texas Mid-Continent Oil & Gas Association will be held at Houston, October 12 and 13, according to an announcement made recently by Maston Nixon, president.

Used Oil Field *and* Industrial Equipment

•

Casing *and* Line Pipe

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Drilling Equipment

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Valves, Flanges, Swages, Fittings *and* Couplings

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Casing Pulling *and* Shooting

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Pipe Straightening, Testing, Machine Work

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35,000' — 5½" OD 14-Lb. Range 2 Casing.

6 — No. 16 American Pumping Jacks. Also Swings, Multiplier, Holdup, ¾" Pull Rods.

3 x 4 Allis Chalmers Centrifugal Pump: Head Feed 100' —500 G.P.M.—3500 R.P.M. Unitized on Steel Base with 15 H.P. Allis Chalmers Electric Motor.

4½ x 4 Gardner-Denver Compressor, Model AAB-100. R.P.M. 870—W.P. 150-Lb., No. 68062.

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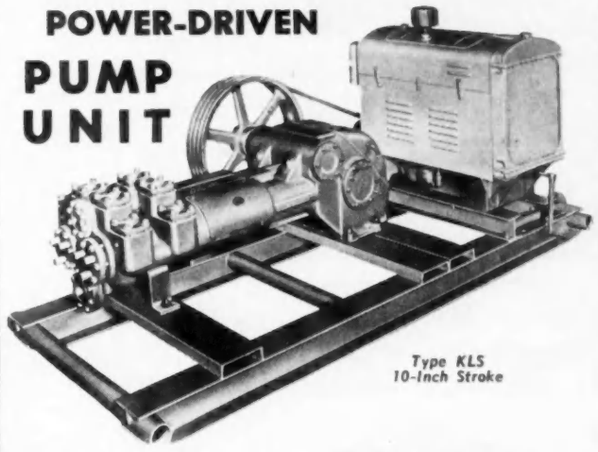
LOCKETT-WORTHINGTON
POWER-DRIVEN PUMP UNIT



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10-Inch Stroke

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A. M. LOCKETT & COMPANY, LTD.

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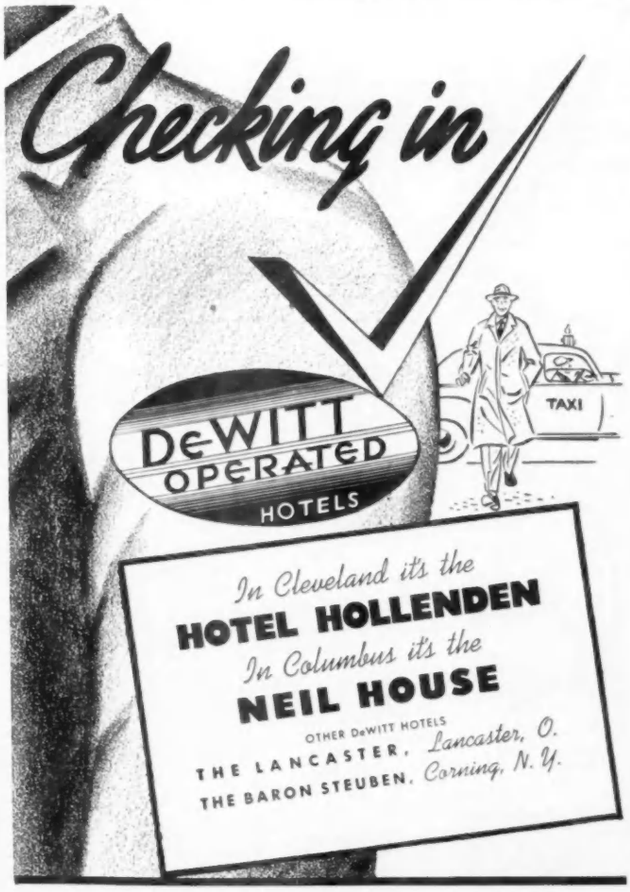

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HOTEL HOLLENDEN
In Columbus it's the
NEIL HOUSE

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THE LANCASTER, *Lancaster, O.*
THE BARON STEUBEN, *Corning, N. Y.*

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TRADE MARK

STEEL TAPES

I'LL TAKE THE
WHITE ONE EVERY TIME!

Easy-to-read, *raised* black graduations on crack-proof white surface... resist abrasion from oil, sand, scraping on the pipe pile, etc. In all sizes and types—in cases or reels. Ask your dealer—or write for catalog.

EST. 1867

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STANDCO BRAKE LINING
for the easiest brake known. It "feeds off" evenly. Standco never scores brake rims. See page 2808 Composite Catalog.
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Analysis of oil field brines, cores, gas, oil

Squeaks from the Bull Wheel

All for Defense

My, good eggs are high!
Sure, part of the war program.
How?
All the hens are making shells.

Predicament

Three soldiers were returning to camp.

From the darkness came the challenge:

"Halt! Who goes there?"

"Friends," said the three.

"Advance No. 1 and be recognized," ordered the guard. No. 1 did so. Then: "Advance No. 2 and be recognized."

"Sorry—hic—chum," came the reply. "If I advance — hic — No. 3 will fall down!"

Honest

"Did Johnny help you with these examples?"

"No, ma'am, he didn't help. He did them all."

Experienced

"How did you get that bump on your head?"

"My wife threw a vase at me."

"Why on earth didn't you duck?"

"I did, but she allowed for it."

Time Element

"Are you the man who cut my hair last time?"

"I don't think so, sir. I've only been here six months."

Graphic

"What do you do in the artillery?"

"Ah opens the big gun, puts in a big shell, closes the gun, points it in the right direction, pulls the trigger and says: 'Mister Hitler, recount yo' army.'"

One at a Time

Uncle Ezry had been very much occupied all by himself over in a corner near the fireplace. He was working industriously with a stub of a pencil and a piece of paper. Suddenly he looked up happily.

"Doggone," he exclaimed, "if I ain't learned to write."

Maw got up and looked over the scrawled lines across the paper.

"What do it say?" she asked.

"I don't know," replied Uncle Ezry, puzzled, "I ain't learned to read yit."

No Mistake

"Is this the laundry? Well, you sent me half a dozen old handkerchiefs instead of my shirt."

"Them ain't handkerchiefs. Them is your shirt."

Grace

"What's saying grace mean, teacher?"

"Why, I'm surprised you don't know that. What is the first thing your father says when you go to dinner?"

"He says, 'Go slow on the butter, kids, we've got to make it last.'"

No Malice

"Who introduced you and your wife?"

"We just met. I don't blame anybody."

Yes, Who?

"But, Papa, if God makes some girls brunettes, and makes some girls blondes, who makes the red-headed girls?"

"You know," replied Papa, absently, "I've often wondered."

Logical Question

"Friends, I have lived here all my life. In this city there are 100 taverns. I'm proud to say that I have never been in one of them."

"Which one is that?"

Legal Language

"Well, when does the fun start?"

"What fun? There's no fun here."

"Well, I'll be blowed!" gasped the prisoner. "And the judge distinctly told me that I was coming here for the time of my life."

Social Note

"Is your mother engaged?"

"I think she's married."

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Model 44-S
The Justrite Twin-Bulb Safety Lantern transforms the darkest nights to day around rigs, pipe lines, and loading points. Easily carried by swinging handle. Powerful 634 candlepower beam. Approved by Underwriters' Laboratories, Inc.
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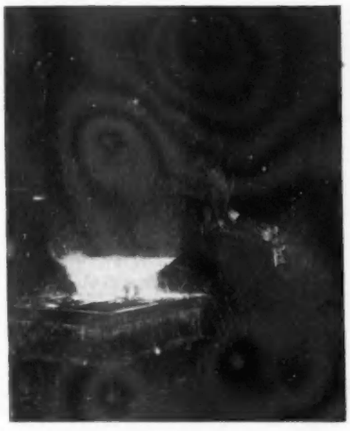
Be 100%
with your
10%
★
Buy WAR BONDS

FIRST WE MUST WIN THE WAR

While we have not been able to serve our friends as we would like, we will have the satisfaction, when victory comes, of knowing that we have done our utmost in the all-out war effort. We will have completed a record that is being highly commended in unsolicited letters from war manufacturers.

We know our friends will understand, for they, too, are putting everything secondary to war production and they, too, know what it means to have to refuse orders. After victory we who have accomplished more than we ever thought possible in stepping up production and improving methods, will be doing business with each other again in greater volume and more efficiently than ever before.



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FOUNDRY & MACHINE CO.

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AT WAR'S END

replace substitute pipe with time-tested Centrifugal Mono-Cast Pipe. Manufactured according to the recently adopted ASA Law of Design or other specifications.

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in knowing the most accurate, reliable and speediest method of orienting drilling tools underground? We will gladly forward you a reprint of an article dealing with this subject if you will fill out the form below.

Kindly mail me a copy of "Application of Magnetic Method of Deflecting Tool Orientation."

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Notes for the Equipment Buyer and User

All-Purpose Electrode

THE LINCOLN ELECTRIC COMPANY

The Lincoln Electric Company, Cleveland, Ohio, has perfected a general purpose arc-welding electrode for welding mild steel in all positions, with either alternating or direct current.

"Fleetweld 37" as the electrode is designated was designed originally as an easy striking, smooth operating electrode primarily for light-gauge material. However, according to the manufacturers, extensive use has also shown it to be a fast-operating electrode under all conditions.

A feature of the product is that there is no slag interference when welding vertical down. This assures good results in this position, the one in which greatest welding speeds on 8- to 16-gauge steel are obtained.

Higher welding speeds are obtainable with the electrode since it withstands higher currents, both alternating and direct. Also, its easy handling characteristics make it adaptable for general purpose work.

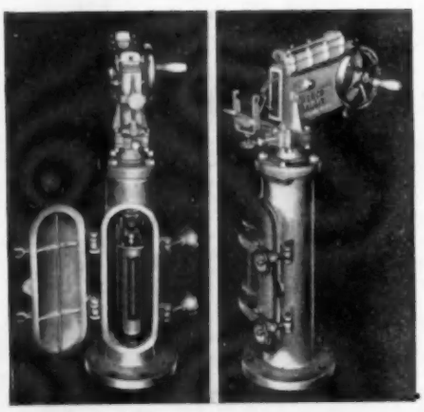
Physical properties of weld metal specimens using the electrode are: tensile strength, 70,000 to 80,000 p.s.i.; yield strength, 60,000 to 68,000 p.s.i.; ductility, 18 to 25 percent.

Tank Gauge

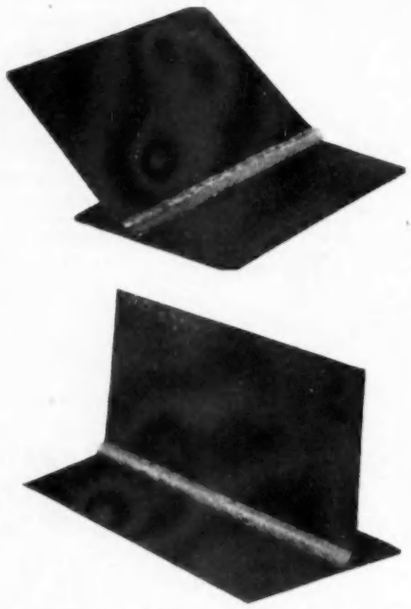
JOHNSTON & JENNINGS COMPANY

The "Oceco" Division of Johnston & Jennings Company, Cleveland 14, Ohio, announces a multiple-duty hand tank gauge which eliminates the necessity of gauging through an open hatch, with resulting loss of vapor and exposing the gauger to fumes.

This equipment consists of sampler-bob with a thermometer, a fingered tape guard, and a gauging tape that is reeled past a sight glass on top of the unit. Access doors are provided for both the lower and upper chambers. A gauging valve, operated with a knurled knob, isolates the upper from the lower chamber when closed, and the base of the unit is a standard 125-pound flange,



Front view (left) of "Gaugit," showing sampler bob, thermometer and tape guard. At right is shown door through which paste is applied.



Top, lap joint; bottom, fillet or tee joint, both welded with "Fleetweld 37."

which is drilled for mounting on a standard 4-inch gate valve.

In operating the device, the gauger opens the 4-inch gate valve and lowers the sampler-bob into the tank.

When that portion of the tape, where the level of the liquid in the tank is expected to be found, comes into view in the sight glass on top of the "Gaugit," the gauging valve is closed with the knurled knob, thus preventing the escape of tank vapors. The tape access door is then opened, and gauging paste applied to a section of the tape. After the door has been closed again and the gauging valve re-opened, the tape is reeled out slowly until the sampler bob contacts the bottom of the tank. This opens the upper valve in the sampler bob, so as to take a sample of the tank contents as the tape is reeled in. The gauger stops reeling at the point where the gauging paste has been "cut," taking the reading, then closes the gauging valve, and opens the tape access door, and wipes the tape clean of paste. After the access door has been closed and the gauging valve opened again, the sampler-bob is reeled in, reclaiming the tape guard from the gate valve, until the bob hits the safety bumper in the sampler housing. The 4-inch gate valve is then closed, the door to the sampler chamber opened, the temperature recorded, and the contents of the sampler-bob drained into a container through a valve in the bottom of the sampler, or returned to the tank.

Parkersburg Wins Second E Award at Coffeyville

The Coffeyville, Kansas, plant of The Parkersburg Rig and Reel Company was awarded the Army-Navy E for the second time on January 31, for outstanding performance in production of war equipment.

White Heads Franks Manufacturing Corporation

Carl White, Jr., one of the organizers of Franks Manufacturing Corporation, Tulsa, has been elected president of the company following purchase of the interest of the other founder and co-owner, H. H. Franks, who is retiring. Stock interest will also be acquired by A. W. Conwell, who becomes vice president and plant manager, and Joe V. Bowman and W. P. Woody who remain as secretary-treasurer and chief engineer respectively. These men, with White, form the board of directors.

Carl White, Jr.

At a dinner held February 12 in honor of H. H. Franks' retirement, the employes presented the founder with a set of silver.

The plant now employees 400 men and women. Formed in 1930, since 1942 the company has been building barrage balloon winches and cranes for tractors for the war effort in addition to supplying the oil industry with as many portable drilling and servicing units as could be constructed from the limited materials available.

White stated that while plant facilities are now tuned principally to war requirements, more and more effort is being given to the requirements of the oil industry since materials are beginning to be released in increasing quanities.

Well Equipment Manufacturing Company Elects Officers

At its ninth annual board of directors meeting held recently in Houston, Well Equipment Manufacturing Corporation re-elected C. K. Stillwagon as president and general manager and S. H. Smith as vice president. H. J. Hagn, former secretary-treasurer, was elected vice president, and J. H. Robinson was elected secretary-treasurer.

S. H. Smith, who has been associated with the company since its organization, has been granted a military leave of absence.

Jack Walton Elected Head Of Tulsa Nomad Chapter

Jack Walton of Clark Bros. was elected president of the Tulsa Chapter of Nomads at the annual meeting of the chapter February 14. He succeeds P. E. Fitzgerald of Dowell Incorporated. Shep Miers was elected vice president, H. M. Cosgrove was reelected secretary-treasurer, A. G. Bailey was made sergeant-at-arms, and Fred E. Cooper in charge of organization. C. O. Willson and Fitzgerald were named regents.

Principal talk of the meeting was by D. R. Davis of United States Rubber Company, Tulsa, who discussed Exploration in Egypt.

Wartime Conservation—Pipe

Information supplied by the "Oil Weekly"

In addition to requiring priority-controlled and scarce materials, replacement of corroded pipe lines makes serious inroads on the time of the few men still available to the industry for necessary operation and maintenance duties.

To extend pipe life and to minimize electrolysis and corrosion troubles, lines which formerly were buried in trenches or carried in pits, now are being carried above ground, and new installations are being designed to prevent, insofar as possible, all contact between soil and pipe, equipment and attachments. Supporting points are of concrete or treated timber, with ample clearance below the intervening spans to insure against the accumulation of debris and trash and eventual completion of electrolytic circuit between metal and the soil.

Where many lines are to be supported, use of slender concrete beams, extending athwart the trend of the pipes, provides a sturdy anchorage as well as support, preventing creeping of the lines and reducing to a minimum the area at which moisture can tend to collect.

CLIMAX FURNISHES AUTHORITATIVE ENGINEERING DATA ON MOLYBDENUM APPLICATIONS.

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MOLYBDIC OXIDE, BRIQUETTED OR CANNED • FERROMOLYBDENUM • "CALCIUM MOLYBDATE"

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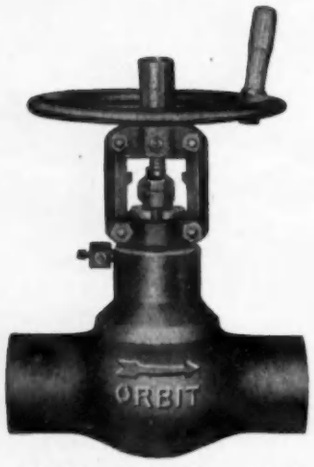
Now!

More than ever before you need valves that can "take it."

ORBIT VALVES



Orbit Wing Valve (Screwed End)

ORBIT WING VALVE

This valve is especially designed for Wing Service. Made in 2" size only in both flanged and screwed ends. Opening through valve is 1⅛". Seats of cast Stellite J Metal.

•

YOUR ORBIT VALVES

will last for the duration. Meanwhile, if you have any questions regarding their care or maintenance, write us.

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OIL WELL IMPROVEMENTS CO.

SINCE 1912

TULSA, OKLAHOMA

Men in the Industry's News

ROBERT R. THOMPSON, former chief geologist for the Snowden & McSweeney Company, Fort Worth, has become associated with Hill & Hill, Inc., Fort Worth.

LESTER GRANT, vice president and manager of McElroy Ranch Company, West Texas oil producing and ranching firm, announces the removal of headquarters from the McElroy ranch building, near Crane, to Midland.

GEORGE O. CARR, former United States Army paratrooper who recently received medical discharge after being wounded in Sicily and Italy, has joined the Texas Pacific Coal & Oil Company's West Texas scouting staff with headquarters at Midland.

A. L. SOLLIDAY has been advanced to vice president in charge of operations for Stanolind Oil & Gas Company at Tulsa, being replaced in his former position as manager of the exploration department by George W. Clarke. John G. Betram will be the latter's assistant.

JOHN H. NELIMARK, geologist with Darby Petroleum Company at Tulsa, has resigned to operate as a consultant.

ROY C. COFFEE, general attorney for Lone Star Gas Company, Dallas, has resigned to engage in general practice of law with offices in the Allen building, Dallas.

JOHN W. THOMAS, general manager of Deep Oil Development Company, Wichita Falls, has been elected president of the North Texas Oil & Gas Association, succeeding J. A. McCarty. Edward G. Kadane was chosen vice president, and Fred Sehmann was re-elected executive vice president.

J. M. BUGBEE, petroleum engineer and geologist, formerly with Standard Oil Company of California, and more recently with the Baroid Sales division of National Lead Company, has joined the exploitation division of Shell Oil Company, at Houston.

J. PAUL JONES has been appointed director of production of Pennsylvania Grade Crude Oil Association, with headquarters at Bradford. He is to correlate information on production practices in the Pennsylvania Grade region and make such information available to operators in an effort to increase the output of Pennsylvania Grade oil.

GEORGE L. BURR has been elected a director of Creole Petroleum Company, with headquarters in New York. He is a former vice president of Guaranty Trust Company of New York and from 1928 to 1940 was a partner in Lazard Freres & Company. Lately his activities have included directorships in the Associated Dry Goods Corporation, Purity Bakeries Corporation and Detroit Edison Company. He is operating trustee of the Texas Pacific Land Trust.

GORDON C. HILL has joined Well Equipment Manufacturing Corporation, Houston, as designing engineer. He formerly was with Kelley Manufacturing Company, Houston, in the same capacity.

W. L. ANGLE, district geologist in the Houston office of the Pan American Production Company, has been transferred to Jackson, Mississippi, where the company is opening a district. J. M. Lille, scout from the Baton Rouge office of the company, is being transferred to Jackson as geological scout and landman for the Southeastern states area.

GEORGE HARRIS of Alma, chief scout for Consumers Power Company, has been elected president of Michigan Oil Scouts Association. He succeeds Harold Howell of Muskegon, scout for Muskegon Development Company. Other officers elected include Vance Orr, Maguire, Inc., vice president; Tom Knapp, Chartiers Oil Company, secretary, and John Johnson, Chapman Oil Company, treasurer, all of Mt. Pleasant.

DR. GEORGE S. HUME, geologist for the Oil Controller of Canada gave a lecture before the Shawnee and Oklahoma City Geological Societies in Oklahoma City at the February meeting on the "Petroleum Developments and Prospects in Western Canada."

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